GENERAL NOTES

- THE APPLICANT IS THE ENTITY FOR WHICH THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) HAS ISSUED A PERMIT. FOR DPW PROJECTS WHERE A PERMIT IS NOT APPLICABLE. THE ENTITY FOR WHICH THE CITY CONTRACT IS ISSUED SHALL BE CONSIDERED THE APPLICANT IN THESE NOTES. THE APPLICANT IS RESPONSIBLE FOR ALL CONTRACTORS, AGENTS, SUBCONTRACTORS OR OTHER ENTITIES COMPLETING WORK UNDER THIS PERMIT AND/OR APPROVED PLAN.
- THE APPLICANT MUST ARRANGE A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCING ANY WORK. PROVIDE AT LEAST 48 HOURS OF NOTICE TO THE FOLLOWING: DPW AREA INSPECTOR LISTED IN THE PERMIT, CITY FORESTRY INSPECTOR AT 240-314-8713, IF REQUIRED BY PERMIT, AND DPW SEDIMENT CONTROL INSPECTOR AT 240-314-8879, IF REQUIRED BY PERMIT.
- THE APPLICANT MUST CONTACT THE FOLLOWING ENTITIES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION: CITY DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION AT 240-314-8500 (TRAFFIC SIGNAL LOCATES. RED LIGHT CAMERAS AND SPEED CAMERAS), CITY UTILITIES SECTION AT 240-314-8567 (CITY WATER, SEWER AND STORM DRAIN LOCATES) AND MISS UTILITY AT 1-800-257-7777 OR OTHER MISS UTILITY APPROVED METHODS (WSSC, PEPCO, WASHINGTON GAS, VERIZON, COMCAST, ETC. LOCATES).
- INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES BY DIGGING TEST PITS AT THE UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCE IS LESS THAN SHOWN ON THIS PLAN, CONTACT THE PROFESSIONAL ENGINEER WHO STAMPED THE DESIGN PLANS BEFORE PROCEEDING
- MAINTAIN A MINIMUM ONE-FOOT VERTICAL CLEARANCE BETWEEN ALL CITY UTILITIES CROSSING ANY OTHER UTILITY. UNLESS OTHERWISE NOTED, MAINTAIN A FIVE-FOOT HORIZONTAL CLEARANCE WITH BETWEEN A CITY UTILITY WITH ANY OTHER UTILITY OR STRUCTURE. THE ONLY EXCEPTION IS THAT THERE SHALL BE A TEN-FOOT HORIZONTAL CLEARANCE BETWEEN CITY WATER AND SEWER MAINS
- 3. AT THE END OF EACH DAY, ALL TRENCHES SHALL BE BACKFILLED, ALL EQUIPMENT SECURED AND THE AREA LEFT IN A SAFE CONDITION. STEEL PLATES ARE ALLOWED TO REMAIN NO LONGER THAN SEVEN DAYS. PLATES ARE TO BE NOTCHED (RECESSED) AND PINNED TO THE ROADWAY. PLATES MUST BE LARGE ENOUGH TO ALLOW A MINIMUM OF ONE-FOOT BEARING ON ALL FOUR SIDES OF THE PAVEMENT SURROUNDING THE EXCAVATION. THE STEEL PLATE REQUIREMENTS ONLY APPLY TO PUBLIC STREETS.
- THE PUBLIC ROAD UTILITY PATCH SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAIL #60. OR AS SHOWN ON THE PLANS. ALL TRENCHES IN PUBLIC STREETS SHALL BE FILLED WITH COMPACTED GRADED AGGREGATE BASE (GAB) FROM BELOW THE PAVEMENT TO THE TOP OF THE PIPE EMBEDMENT ZONE OR TO A DEPTH OF FIVE-FEET, WHICHEVER IS LESS.
- DPW NORMAL WORKING HOURS ARE MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS, FROM 7 A.M. TO 5 P.M. THE CITY OBSERVES THE FOLLOWING HOLIDAYS: NEW YEAR'S DAY, MARTIN LUTHER KING'S BIRTHDAY, PRESIDENT'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS' DAY, THANKSGIVING DAY THANKSGIVING FRIDAY AND CHRISTMAS DAY, AND ALL DAYS OF GENERAL AND CONGRESSIONAL ELECTIONS THROUGHOUT THE STATE. THE CONTRACTOR WILL NOT BE PERMITTED TO CLOSE LANES OR DO ANY WORK THAT REQUIRES THE SERVICES OF THE CITY FORCES, OUTSIDE OF THE NORMAL WORKING HOURS, UNLESS LISTED IN THE PERMIT OR AUTHORIZED BY DPW IN WRITING. HOWEVER, THE CONTRACTOR, WITH VERBAL PERMISSION OF DPW MAY BE PERMITTED TO WORK OUTSIDE OF THE NORMAL WORK HOURS FOR CLEAN-UP ACTIVITIES OR OTHER SUCH ITEMS THAT DO NOT ADVERSELY IMPACT TRAFFIC. RESIDENTS OR CITY SERVICES
- TRAFFIC MUST BE MAINTAINED ON ALL ROADWAYS WITHIN THE CONSTRUCTION AREA AS DIRECTED BY DPW. NO LANE CLOSURE SHALL BE PERMITTED BETWEEN 7:00-9:00 A.M. OR 3:30-6:00 P.M. MONDAY THROUGH FRIDAY. AN EXCEPTION IS THAT LANE CLOSURES ARE PERMITTED ON SECONDARY RESIDENTIAL STREETS AT ANY TIME DURING NORMAL WORKING HOURS. DEPLOYMENT AND DESIGN OF ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVISES (MUTCD). IF REQUIRED, TRAFFIC CONTROL PLANS SHALL BE REVIEWED AND APPROVED BY THE CHIEF OF THE TRAFFIC AND TRANSPORTATION DIVISION. DPW MAY SUSPEND LANE CLOSURE OR OTHER TRAFFIC CONTROLS AT ANY TIME DURING, OR IN ADVANCE OF, INCLEMENT WEATHER EVENTS.
- 10. SHEETING AND SHORING IS THE TOTAL RESPONSIBILITY OF THE APPLICANT. A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND SHALL SEAL THESE DRAWINGS. PROVIDE THREE COPIES TO DPW FOR INFORMATIONAL PROPOSES ONLY.
- 11. IN ADDITION TO ALL CITY PERMITS, THE APPLICANT IS RESPONSIBLE TO ENSURE THAT ALL NECESSARY FEDERAL, STATE AND/OR MONTGOMERY COUNTY APPROVALS AND/OR PERMITS HAVE BEEN OBTAINED IN ASSOCIATION WITH THIS APPROVED PLAN.
- 12. SHOP DRAWINGS MUST BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND PRIOR TO FABRICATION. THE PROFESSIONAL ENGINEER WHO SEALED THE DESIGN PLANS (BUT THE SHOP DRAWINGS) MUST APPROVE THE SHOP DRAWINGS FOR CONFORMANCE TO THE APPROVED DESIGN. PROVIDE THREE COPIES OF APPROVED SHOP DRAWINGS TO DPW PRIOR TO CONSTRUCTION. STANDARD PRE-CAST STRUCTURES PREVIOUSLY APPROVED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION, MONTGOMERY COUNTY AND WASHINGTON SUBURBAN SANITATION COMMISSION DO NOT REQUIRE A SHOP DRAWING SUBMISSION. USE ACTUAL FIELD SOILS DATA FOR DESIGN OF PIPES AND STRUCTURES. ALL PIPES AND STRUCTURES IN PAVED AREAS SHALL BE DESIGNED FOR HS-20 VEHICLE
- 13. UPON COMPLETION OF CONSTRUCTION, THE APPLICANT SHALL PROVIDE THREE SETS OF RED LINED AS-BUILT PRINTS (24-X 36-) FOR REVIEW AND APPROVAL BY DPW. THE DRAWINGS MUST CONTAIN THE ORIGINAL APPROVAL SIGNATURES AND PROFESSIONAL ENGINEER'S SEAL AND SIGNATURE (A SCANNED IMAGE OF THE ORIGINAL MYLAR IS ACCEPTABLE). THE AS-BUILT SHALL BE SEALED BY A PROFESSIONAL ENGINEER OR PROFESSIONAL SURVEYOR, AS APPROPRIATE AND MUST BE LICENSED BY THE STATE OF MARYLAND. THE SEAL SHALL NOTE THAT IT IS ONLY FOR THE AS-BUILT AND SHALL INCLUDE AN AS-BUILT CERTIFICATION ACCEPTABLE TO DPW. UPON RECEIPT OF WRITTEN APPROVAL. THE APPLICANT SHALL PROVIDE APPROVED AS-BUILT MYLAR DRAWINGS ALONG WITH THE ORIGINAL MYLARS (WITH ALL ORIGINAL SIGNATURES) TO DPW PRIOR TO THE RELEASE OF THE PERMIT.
- 14. THE APPLICANT MUST COMPLY WITH THE MONTGOMERY COUNTY NOISE CONTROL ORDINANCE. PLEASE REFER TO THE MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AT 240-777-7770. ASKDEP@MONTGOMERYCOUNTYMD.GOV, OR WWW.MONTGOMERYCOUNTYMD.GOV/DEP.

STORM DRAIN & PAVING NOTES

- ALL STORM DRAIN AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION. MONTGOMERY COUNTY AND THE CITY OF ROCKVILLE UNLESS OTHERWISE NOTED.
- 2. UNLESS OTHERWISE SPECIFIED, ALL STORM DRAIN PIPES SHALL BE INSTALLED WITH MONTGOMERY COUNTY STANDARD . C. SHAPED SUBGRADE BEDDING OR BETTER.
- 3. ALL PUBLIC STORM DRAIN SHALL BE A MINIMUM CLASS IV RUBBER GASKET REINFORCED CONCRETE PIPE IN ACCORDANCE WITH THE LATEST VERSIONS OF ASTM C-76 AND ASTM C-443.
- 4. IF SPRINGHEADS ARE ENCOUNTERED IN ANY PHASE DURING CONSTRUCTION, CONSTRUCTION MUST BE STOPPED UNTIL THEY ARE CAPPED AND PIPED TO A STORM DRAIN OR STREAM AS DIRECTED BY THE CITY.
- PROVIDE POSITIVE DRAINAGE OF ALL AREAS DISTURBED BY CONSTRUCTION. MINIMUM SLOPE IN PAVED AREAS IS ONE PERCENT. MINIMUM SLOPE OF GRADED AREAS IS TWO PERCENT. MAXIMUM SLOPE ON EARTH BANKS
- 6. WHEN TYING INTO EXISTING PAVEMENT, SAW CUT EXISTING PAVING EDGE TO PROVIDE A CLEAN. STRAIGHT AND VERTICAL JOINT. WHEN REMOVING EXISTING CURB OR SIDEWALK, REMOVE TO THE NEAREST JOINT.
- PAVING CONTRACTOR IS RESPONSIBLE FOR ADJUSTING UTILITY TOPS TO FINISHED GRADE.
- APPLICANT IS RESPONSIBLE FOR INSTALLING ALL PAVEMENT MARKINGS AND SIGNAGE IN ACCORDANCE WITH THE FINAL PAVEMENT MARKING AND SIGNAGE PLAN, WHICH IS APPROVED BY THE CHIEF OF TRAFFIC AND TRANSPORTATION.
- 9. FOR PAVEMENT SECTIONS OF PRIVATE DRIVEWAYS AND PARKING LOTS, REFER- TO ZONING AND PLANNING ORDINANCE, 25.16.06.D. - PARKING DESIGN STANDARDS -PAVING SPECIFICATIONS.

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CHANCELET COURT STORM DRAIN IMPROVEMENTS

ROCKVILLE, MARYLAND 20850

	SHEET INDEX
C-1	TITLE PAGE
C-2	EXISTING CONDITIONS
C-3	STORM DRAIN SITE PLAN
C-4	EXISTING CONDITIONS PROFILE
C-5	STORM DRAIN PROFILE
C-6	SITE DETAILS
C-7	DRAINAGE AREA MAP
C-8	NOTES

AS-BUILT CERTIFICATE

I HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS RECORD DRAWING IS AN ACCURATE AND

COMPLETE REPRESENTATION OF DATA ESTABLISHED FROM FIELD INFORMATION OBTAINED UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR OR A PROFESSIONAL ENGINEER, AND THAT THE

PHYSICAL DIMENSIONS OR ELEVATIONS SHOWN THUS 37.55' ARE AS-BUILT INFORMATION AND THE

FACILITY WAS CONSTRUCTED ACCORDING TO THE APPROVED PLANS, EXCEPT AS OTHERWISE NOTED

CABIN JOHN REGIONAL PARK

OWNER/DEVELOPER CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, OR ALL OF THESE, WILL BE DONE PURSUANT TO THIS PLAN AND THAT RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF TRAINING AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT AND THAT THE APPLICABLE SEDIMENT CONTROL CONDITIONS AND REQUIREMENTS OF THE CITY OF ROCKVILLE AND THE STATE OF MARYLAND AND ITS AGENCIES ARE HEREBY MADE PART OF THIS PLAN.

PRINTED NAME AND TITLE CRAIG L. SIMONEAU, PE DRECTOR OF PUBLIC WORKS

THE CERTIFICATE OF TRAINING FOR RESPONSIBLE PERSONNEL REQUIREMENT MAY BE WAIVED BY THE CITY OF ROCKVILLE ON ANY PROJECT INVOLVING FOUR OR FEWER RESIDENTIAL

DESIGN AND QUANTITIES CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND THE ORDINANCE OF THE ROCKVILLE CITY CODE. THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL HAS BEEN COMPUTED TO BE 610 CUBIC YARDS OF EXCAVATION AND 610 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 4164 SQUARE FEET WITHIN THE RIGHT-OF-WAY.

PRINTED NAME AND TITLE: NICHOLAS A. BARRICK, P.E., LEED AP

DATE: 3/21/13

MARYLAND REGISTRATION NUMBER: 33772

DATE 3-22-13

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT AM A DULY LICENSED PROFESSIONAL

ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013 **REVISIONS** DATE APP'D DATE FILE DRAWING 03/21/2013

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IFB: 29-13

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PRODUCTION OF THE PRODUCTION O

EX. DECIDUOUS TREE

EX. EVERGREEN TREE

EX. CLEANOUT

EX. WATER VALVE

EX. WATER METER

EX. GAS VALVE

EX. GUY WIRE

EX. SIGN

EX. WATER

EX. SEWER

EX. GAS

EX. UTILITY POLE

EX. FIRE HYDRAN

EX. PARKING METER

EX. STORM DRAIN

EX. FENCE LINE

PROPERTY LINE

EX. SIDEWALK

PROPERTY MARKER

EX. CURB & GUTTER

SURVEY TRAVERSE POINT

EX. SEWER MANHOLE

KCI JOB# 27121947

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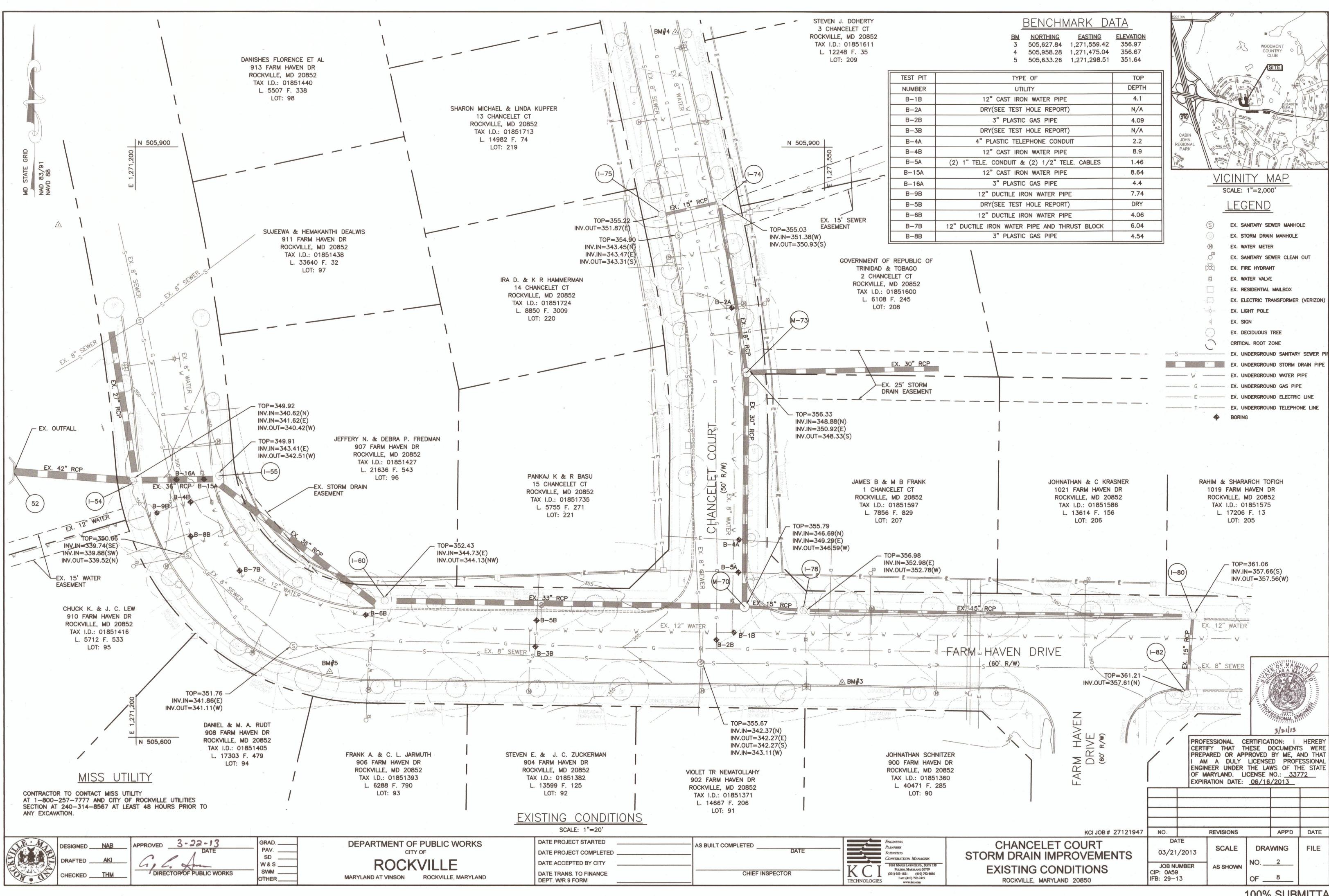
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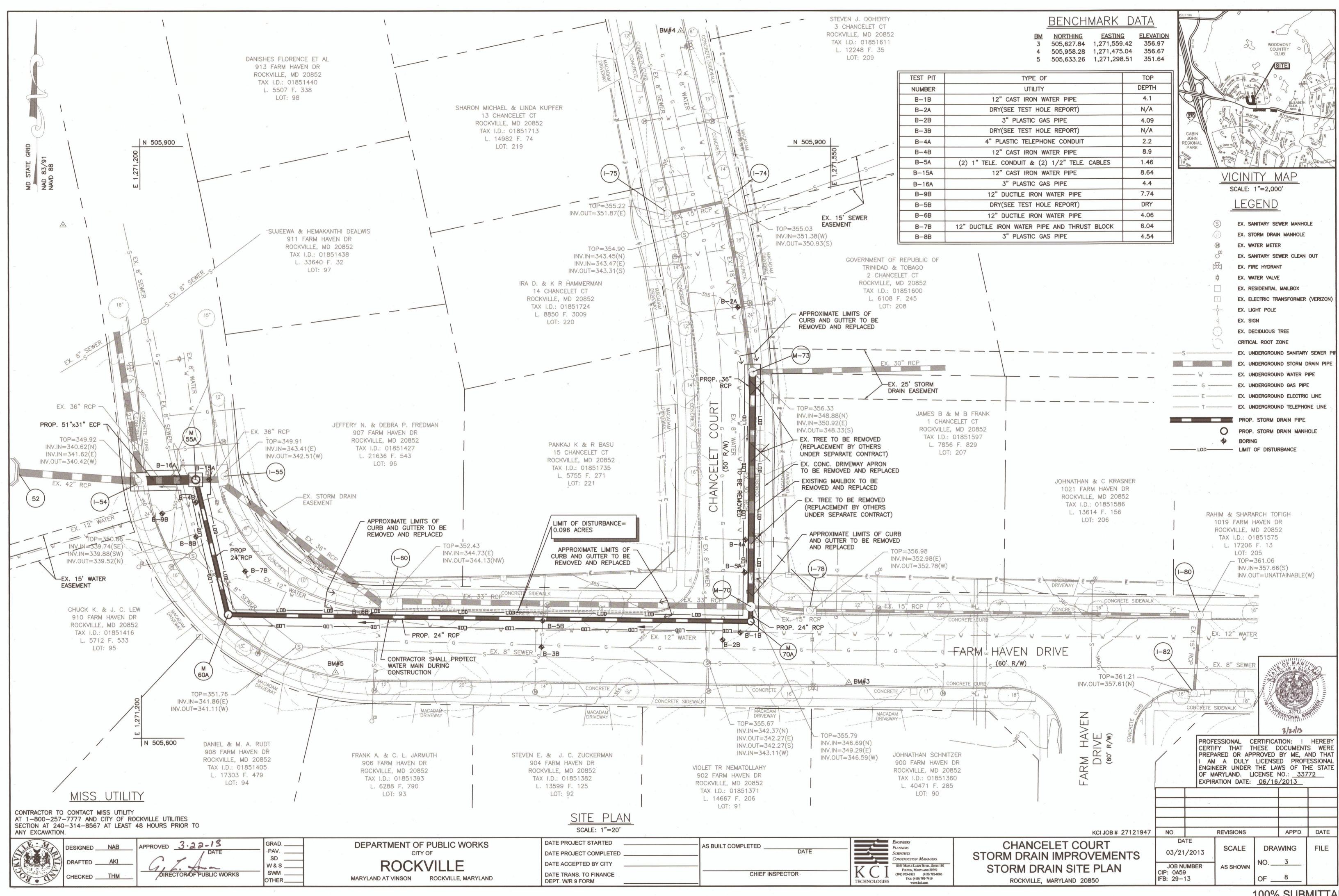
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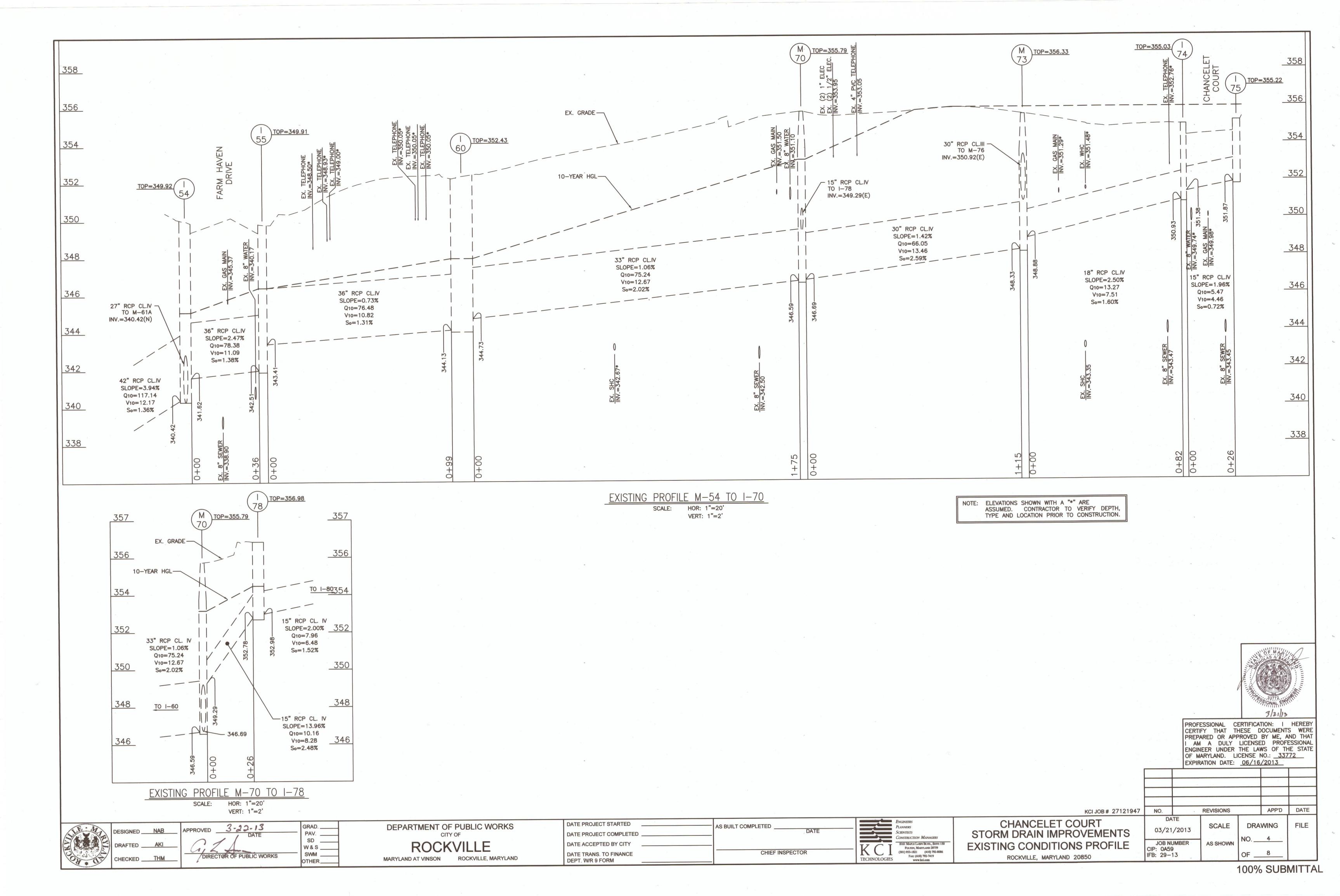


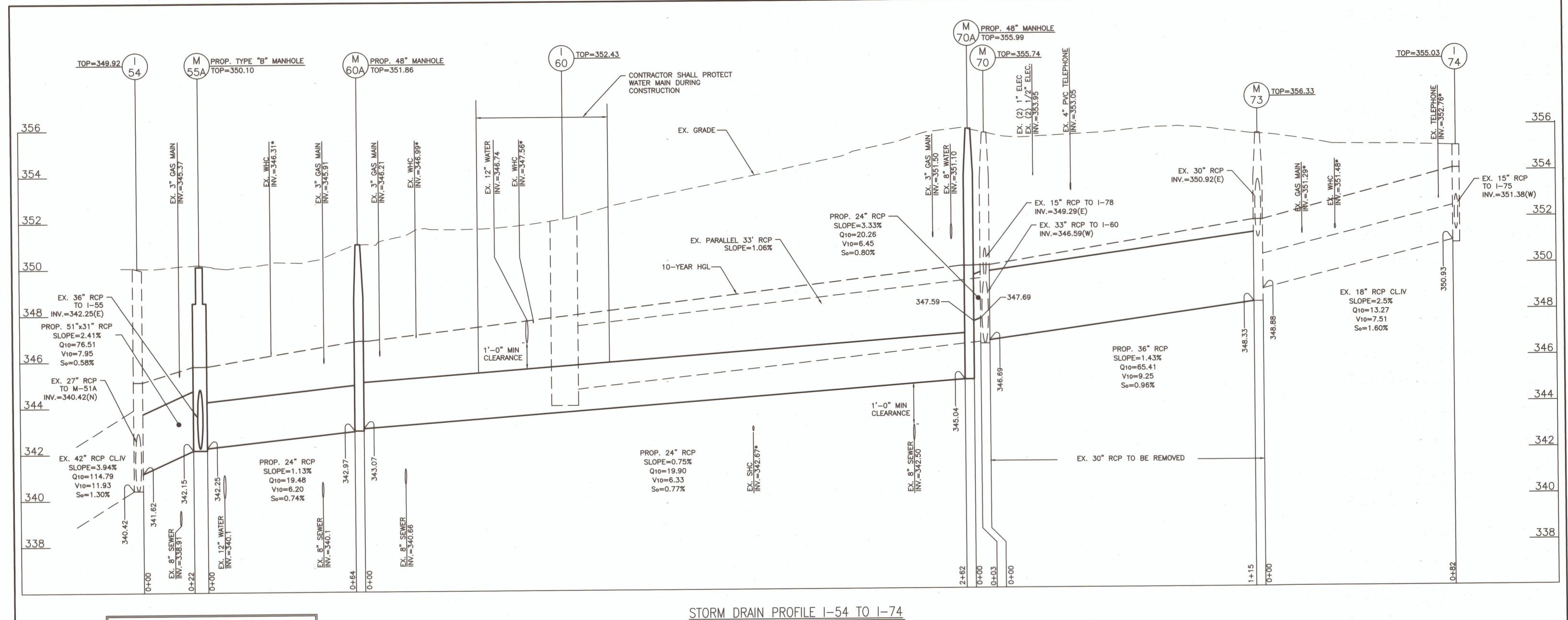
CHANCELET COURT STORM DRAIN IMPROVEMENTS TITLE SHEET

ROCKVILLE, MARYLAND 20850









NOTE: ELEVATIONS SHOWN WITH A "*" ARE ASSUMED. CONTRACTOR TO VERIFY DEPTH, TYPE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SCALE: HOR: 1"=20' VERT: 1"=2"

PIPE	SCHEDUL	E.
SIZE	LENGTH	CLASS
24" RCP	329	IV
36" RCP	115	IV
51x31 ERCP	22	IV

			STRU	CTURE	SCHEDU	LE		
NO.	TYPE	TOP	INV. IN	INV. IN	INV. OUT	NORTHING	EASTING	REMARKS
M-70A	48" TYPE 'A' MANHOLE	355.99		347.59	345.04	505658.96	1271509.67	STANDARD NO. MC-510.0
M-60A	48" TYPE 'A' MANHOLE	351.86		342.97	343.07			STANDARD NO. MC-510.0
M-55A	7'x7' TYPF 'B' MANHOLE	350.10	343.25	342.25	342.15	505731.03	1271227.94	STANDARD NO. MC-515.01



	STRUCTURE SCHEDULE							
NO. TYPE TOP INV. IN INV. IN INV. OUT NORTHING EASTING REMARKS							REMARKS	
M-70A	48" TYPE 'A' MANHOLE	355.99		347.59	345.04	505658.96	1271509.67	STANDARD NO. MC-510.01
M-60A	48" TYPE 'A' MANHOLE	351.86		342.97	343.07			STANDARD NO. MC-510.01
M-55A	7'x7' TYPE 'B' MANHOLE	350.10	343.25	342.25	342.15	505731.03	1271227.94	STANDARD NO. MC-515.01

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

APPROVED 3-22-13

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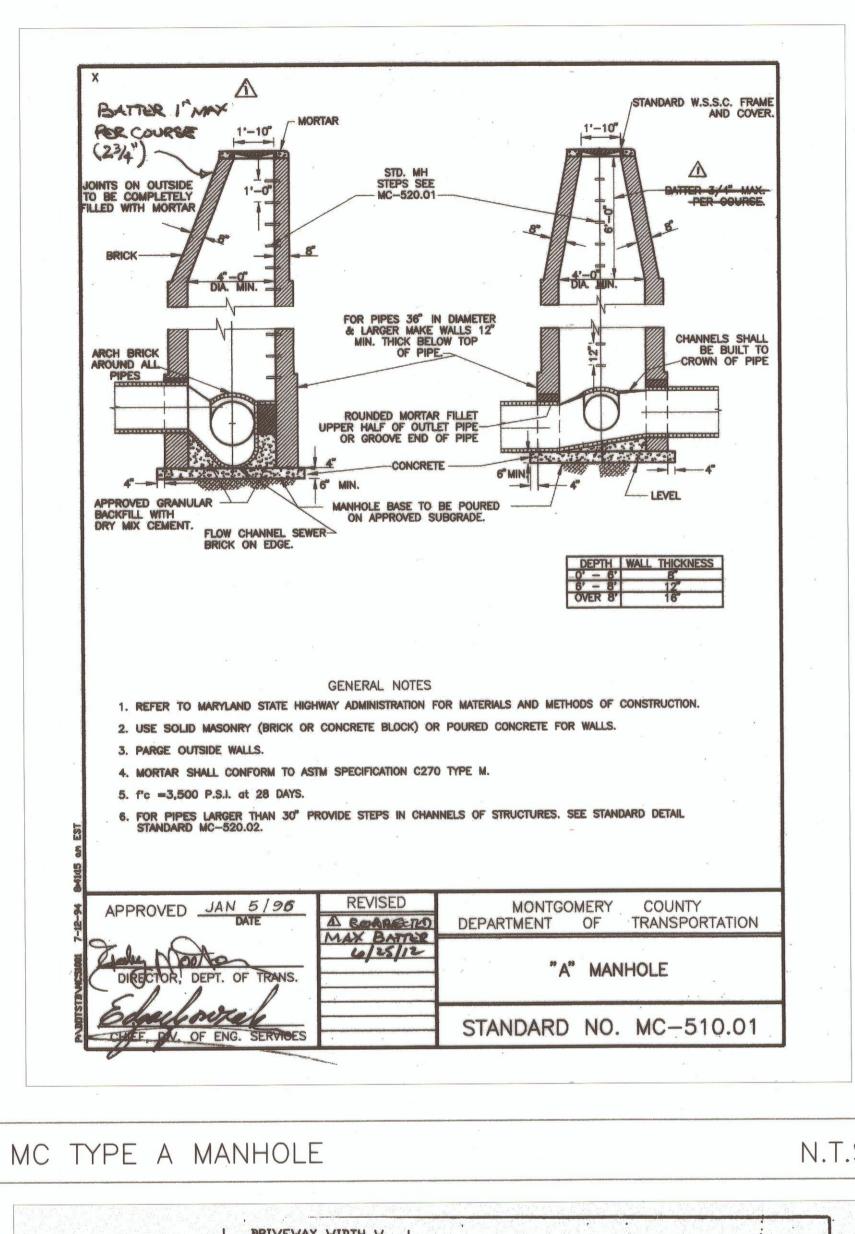
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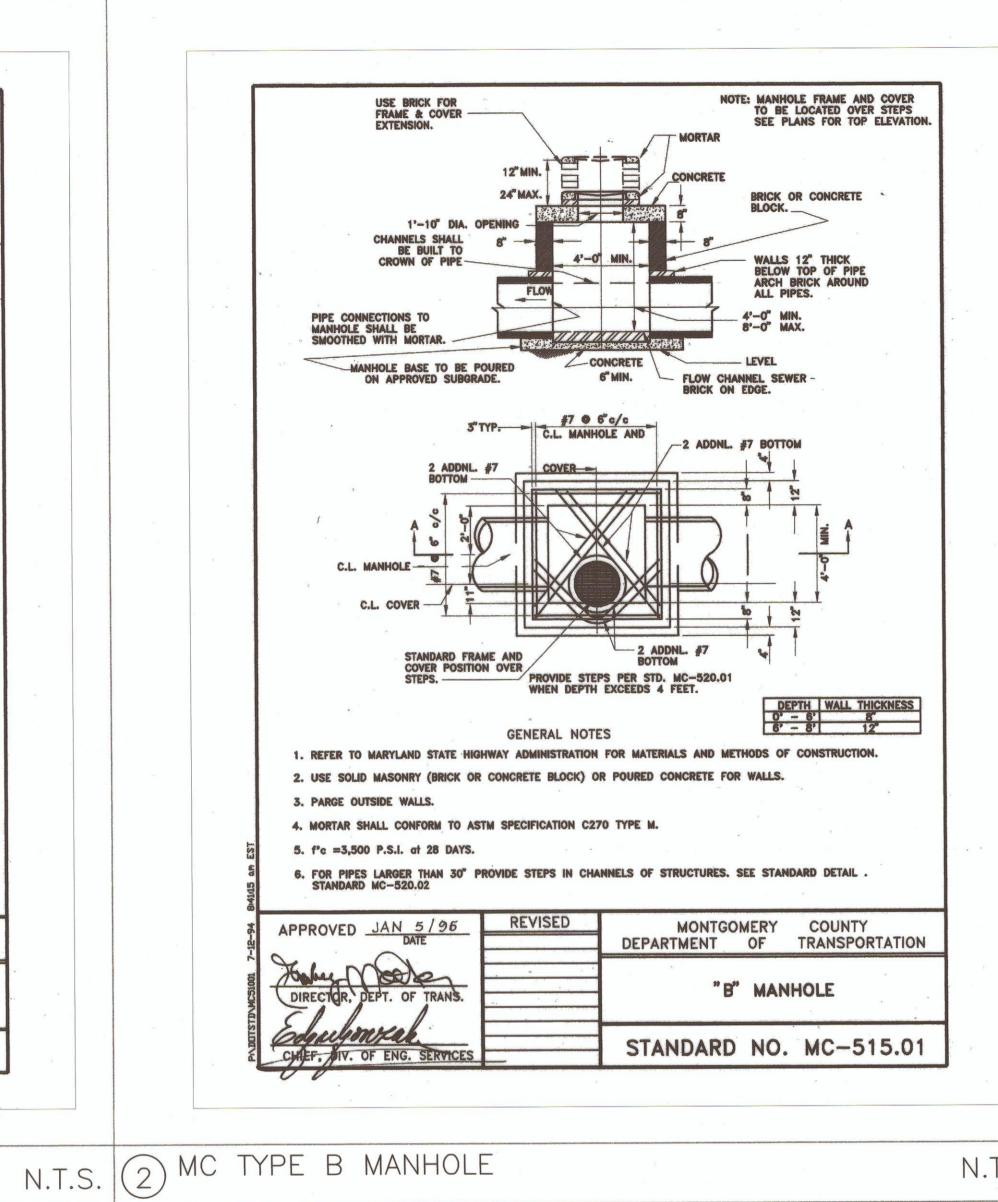
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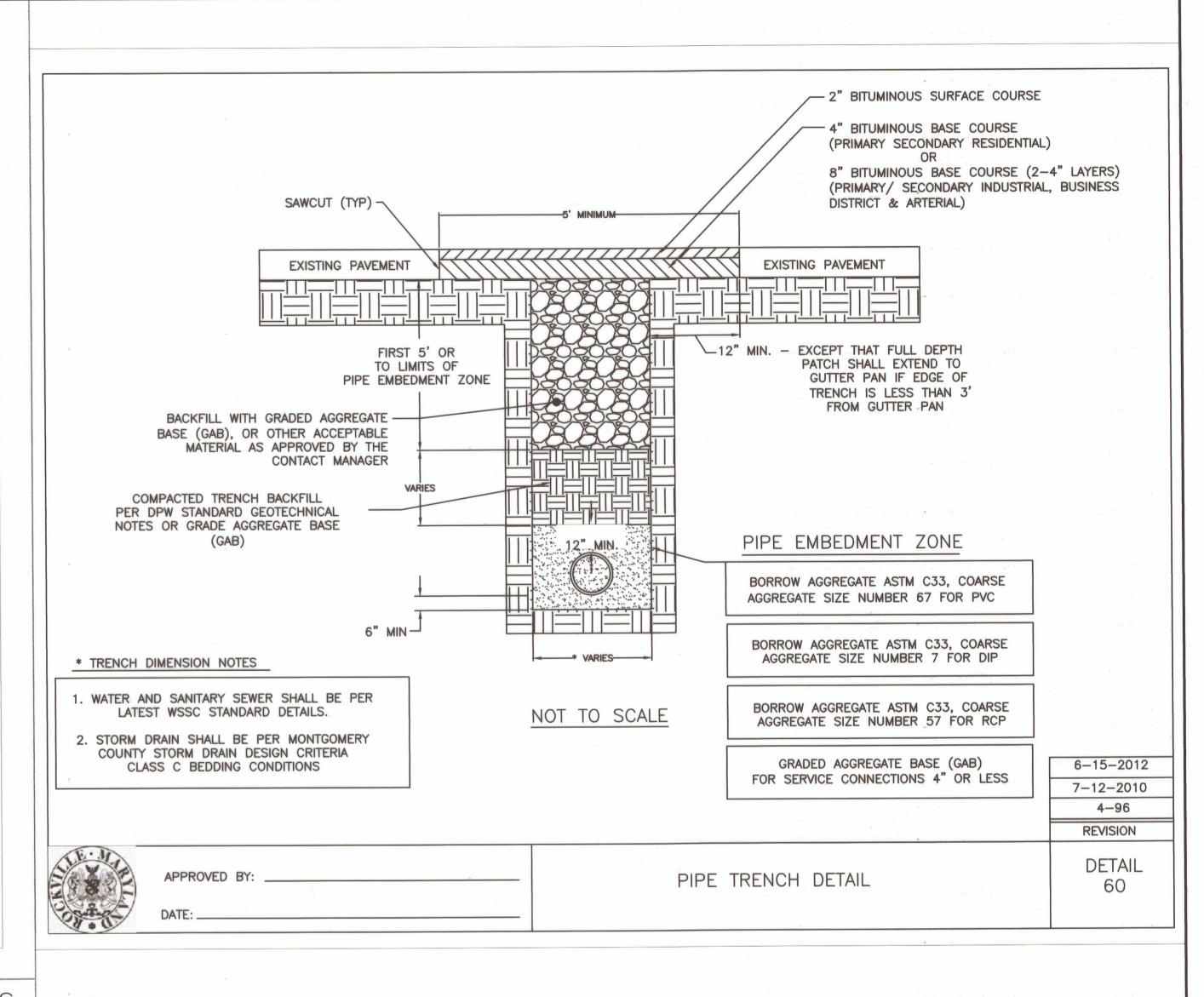
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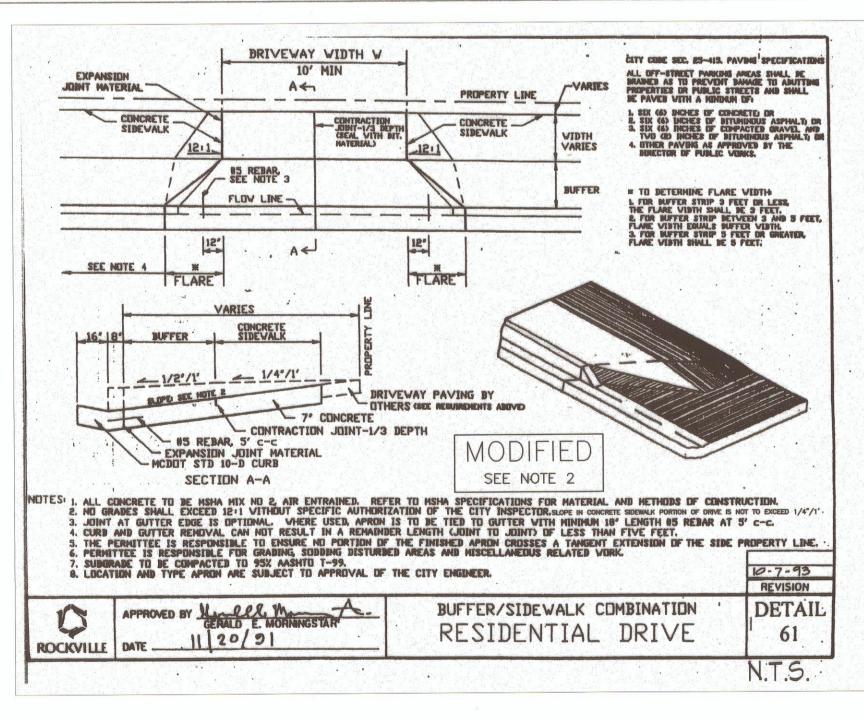
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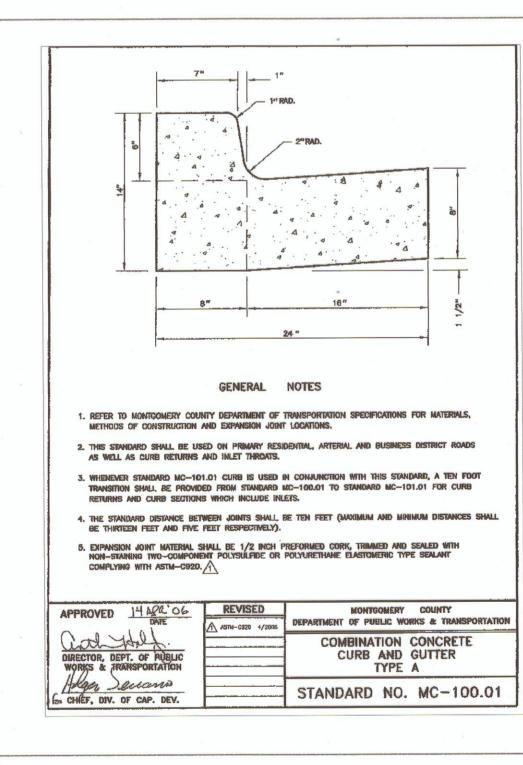
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	Engineers Planners Scientists Construction Managers	CHANCELET COURT STORM DRAIN IMPROVEMENTS
CI	8161 MAPLE LAWN BLVD., SUITE 150 FULTON, MARYLAND 20759 (301) 953-1821 (410) 792-8086	STORM DRAIN PROFILE
LOGIES	FAX: (410) 792-7419 www.kci.com	ROCKVILLE, MARYLAND 20850











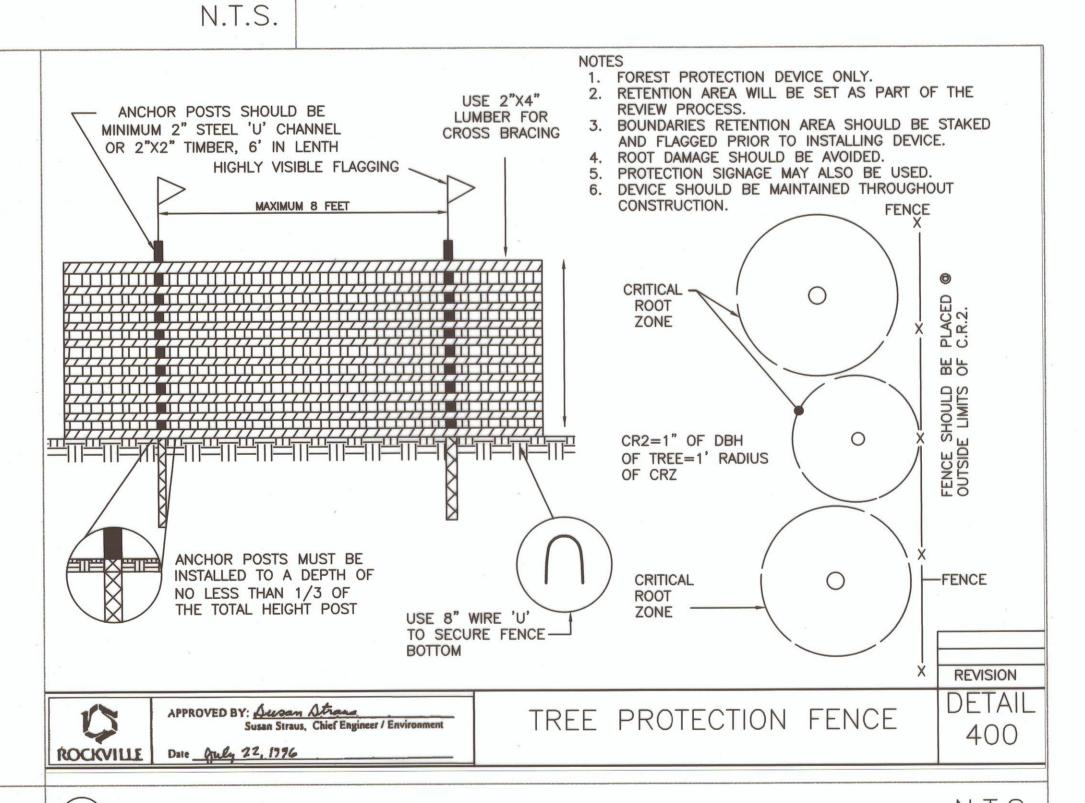
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DATE PROJECT COMPLETED



CONSTRUCTION MANAGERS

8161 MAPLE LAWN BLVD., SUITE 150

FULTON, MARYLAND 20759

FAX: (410) 792-7419

(301) 953-1821 (410) 792-8086

	MAR MAR MAR MAR MAR WAL ENGINE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

3)	MODIFIED	DRIVEWAY	APRON

CHECKED _

(4) CURB & GUTTER

5) BLAZE ORANGE PLASTIC MESH

KCI JOB# 27121 CHANCELET COURT STORM DRAIN IMPROVEMENTS SITE DETAILS

ROCKVILLE, MARYLAND 20850

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DIRECTOR OF PUBLIC WORKS

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CITY OF ROCKVILLE, MARYLAND MARYLAND AT VINSON

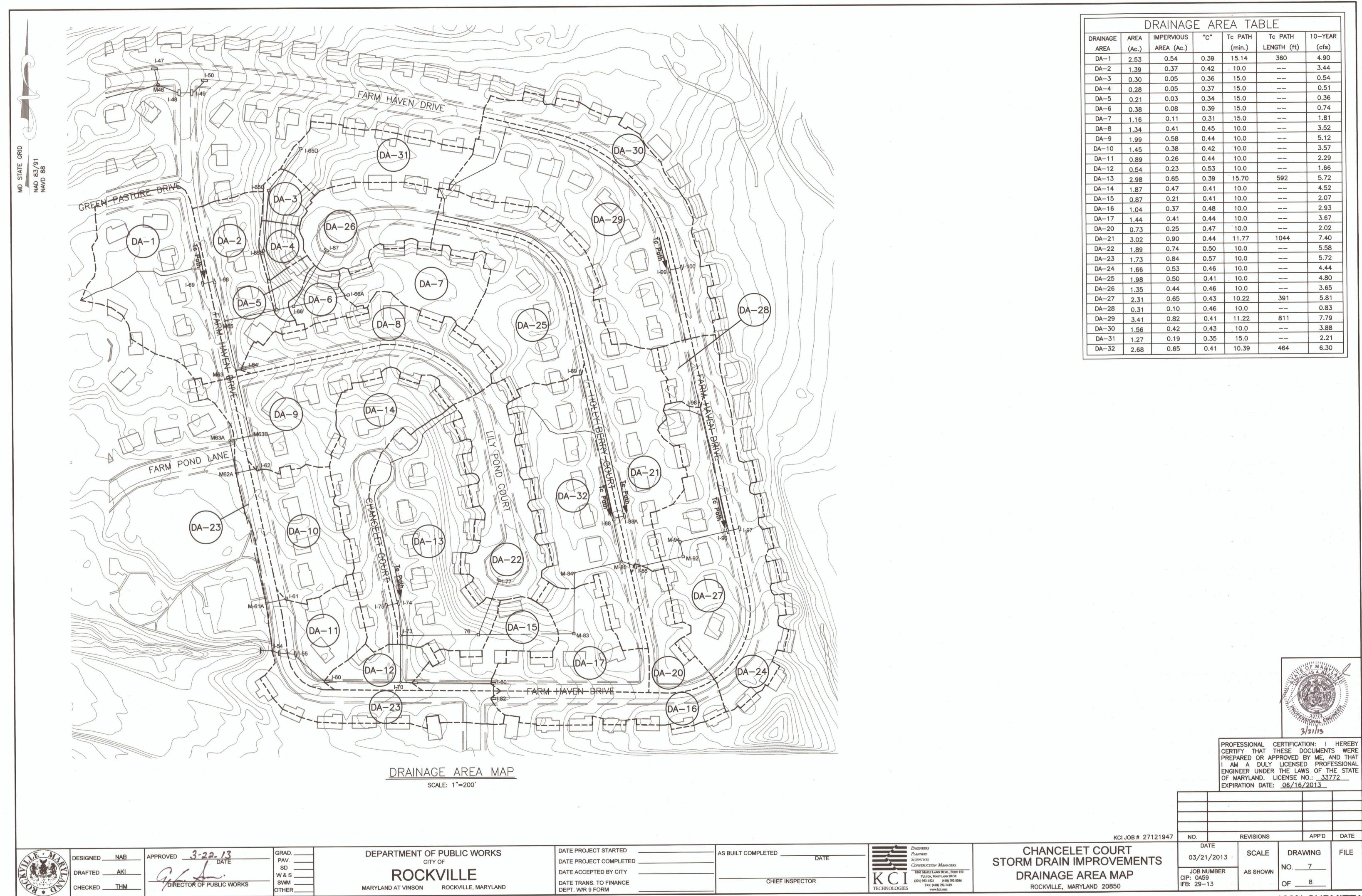
DEPARTMENT OF PUBLIC WORKS

Engineers
Planners
Scienty
Co AS BUILT COMPLETED CHIEF INSPECTOR

100% SUBMITTAL

APP'D DATE

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WATER & SEWER NOTES

- ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE WASHINGTON SUBURBAN SANITARY COMMISSION (WSSC), LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION AND/OR THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW), UNLESS OTHERWISE NOTED.
- 2. THE APPLICANT MUST MAINTAIN ALL SEDIMENT CONTROL DEVICES AND ENSURE THAT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS ARE PROTECTED AS DIRECTED BY DPW TO PREVENT TRACKING OF MUD AND DIRT ONTO PUBLIC RIGHTS-OF-WAY (SIDEWALKS, ROADS, ETC.) OR AFFECTING ADJACENT AREAS.
- 3. THE APPLICANT SHALL NOT OPERATE ANY VALVES LOCATED ON THE EXISTING PUBLIC SYSTEM. REQUESTS TO OPERATE VALVES MUST BE SUBMITTED TO CHIEF OF CONSTRUCTION MANAGEMENT 48 HOURS IN ADVANCE.
- 4. ABANDONMENT OF WATER HOUSE CONNECTIONS AND SEWER HOUSE CONNECTIONS SHALL BE MADE AT THE MAIN LINE AS DIRECTED BY DPW. TO ABANDON WATER HOUSE CONNECTIONS (2-INCHES OR LESS), THE TAP HOLE IS TO BE PLUGGED WITH A BRASS PLUG AND THE VALVE AND CORPORATION MUST BE REMOVED AT THE MAIN. ALL OTHER HOUSE CONNECTIONS MUST BE ABANDONED BY CUTTING OUT THE SECTION OF THE WATER MAIN AND SLEEVING IN A NEW PIPE. TO ABANDON SEWER HOUSE CONNECTIONS, TEES OR SADDLES MUST BE REMOVED AT THE MAIN AND NEW PIPE WILL BE SLEEVED
- 5. ALL PUBLIC WATER AND SEWER MAINS TO BE PLACED OUT OF SERVICE (EXISTING AND PROPOSED) MUST BE COMPLETELY REMOVED AND DISPOSED. ABANDONMENT OF UTILITIES IN PLACE MAY BE ALLOWED AS AN EXCEPTION, ONLY IF ADEQUATE JUSTIFICATION IS PROVIDED TO THE DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION. IF PERMITTED, UTILITIES ABANDONED IN PLACE MUST BE COMPLETELY FILLED WITH LEAN MIX CONCRETE OR FLOWABLE FILL, DISCONNECTED AT THE MAIN AND CAPPED ON BOTH ENDS.

CONNECTION TO EXISTING WATER SYSTEM: THE CONNECTION SHALL BE MADE AT HOURS DETERMINED BY DPW IN ORDER TO CAUSE THE LEAST DISTURBANCE TO EXISTING CUSTOMERS. THE APPLICANT SHALL NOTIFY THE CHIEF OF CONSTRUCTION MANAGEMENT IN WRITING AT LEAST 18 CALENDAR DAYS PRIOR TO MAKING THE CONNECTION AND SUBMIT FOR APPROVAL A SCHEDULE AND METHOD TO COMPLETE THE PROPOSED CONNECTION. THE CONSTRUCTION MANAGEMENT DIVISION WILL NOTIFY THE CITY UTILITIES SECTION AT 240-314-8567 TO ARRANGE FOR VALVE OPERATION. DPW MUST PROVIDE A MINIMUM OF TWO WEEKS OF NOTICE TO AFFECTED PROPERTIES. THE CONNECTION WILL THEN BE MADE AT THE DESIGNATED TIME IN ACCORDANCE WITH THE DIRECTIONS OF THE CHIEF OF CONSTRUCTION MANAGEMENT. TEST PIT INFORMATION ON EXISTING CROSSINGS MUST BE PROVIDED A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.

WATER MAINS: MATERIALS FOR ALL WATER MAINS ARE TO BE DUCTILE IRON PRESSURE CLASS 350. ALL PIPES ARE TO BE CEMENT LINED, MINIMUM OF 1/8-INCH THICK. ALL PIPES AND FITTINGS ARE TO BE RESTRAINED, INCLUDING ALL HOUSE CONNECTIONS 4-INCH AND GREATER. ALL PIPES ARE TO BE U.S. PIPE "TYTON JOINT" OR AN APPROVED EQUAL.

WATER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH WSSC STANDARD DETAILS AND STANDARD SPECIFICATIONS, SECTION 02510.

VALVES: VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS AND SHALL BE A CLOCKWISE TURN TO CLOSE, MECHANICAL JOINT. ALL VALVES SHALL BE RESILIENT SEAT GATE VALVES. VALVE BOX SHALL BE TWO-PIECE SLIDING TYPE ADJUSTABLE AND HEAVY DUTY DOMESTIC (BINGHAM & TAYLOR OR APPROVED EQUAL). THE COVERS SHALL SAY 'WATER' ONLY. ANY VALVE COVER/LID WITH THE TEXT 'WSSC' WILL BE REJECTED. VALVES BOXES FOR UP TO

36-INCHES IN HEIGHT SHALL WEIGH AT LEAST 75 POUNDS AND VALVE LIDS SHALL WEIGH AT LEAST 14.5 POUNDS. SKIRT SIZE SHALL BE 2.5-INCHES

FIRE HYDRANTS AND FIRE HYDRANT CONNECTIONS: THE APPLICANT MUST TEST PIT ALL FIRE HYDRANT LEADS AND VALVES BEFORE REMOVING OR REPLACING A HYDRANT TO CONFIRM EXISTENCE OR CONDITION OF STRAPPING.

FIRE HYDRANTS SHALL BE SET 2-FEET BEHIND THE FACE OF CURB UNLESS OTHERWISE INDICATED ON THE DRAWING. EACH HYDRANT SHALL BE SET EXACTLY PLUMB, AT THE GRADE PROVIDED, AND SHALL BE JOINTED TO THE FIRE HYDRANT CONNECTION AT THE FOOT OF THE BARREL. CARE SHALL BE TAKEN TO PLACE THE STEAMER OUTLET NORMAL TO THE STREET LINE AND ANY HYDRANTS PLACED ASKEW SHALL BE RESET AS REQUIRED BY THE CITY.

FIRE HYDRANTS SHALL BE FIRMLY SET IN A BED OF SCREENED GRAVEL, WHICH SHALL EXTEND 1-FOOT BELOW THE BOTTOM OF THE HYDRANT AND BE FILLED IN AND AROUND IT. THE HYDRANT SHALL BE FIRMLY BRACED AT THE BACK, OPPOSITE THE INLET PIPE. THE TOTAL AMOUNT OF GRAVEL USED SHALL BE AT LEAST 1/3 OF A CUBIC YARD. FIRE HYDRANTS SHALL NOT BE BLOCKED.

FIRE HYDRANT CONNECTIONS OF 6-INCH CEMENT LINED DUCTILE IRON PIPE SHALL BE LAID AT THE POINTS SHOWN ON THE DRAWINGS AND SHALL BE EXTENDED EITHER TO FIRE HYDRANTS TO WHICH THEY SHALL BE CONNECTED OR TO SUCH POINTS AS SHALL BE DESIGNATED. FIRE HYDRANT CONNECTIONS SHALL BE LAID IN ALL PARTICULARS IN A SIMILAR MANNER TO THE WATER MAINS THEMSELVES.

FIRE HYDRANTS SHALL BE MUELLER OR APPROVED EQUAL TRAFFIC MODEL TYPES, WHICH CONSISTS OF BREAK-AWAY BOLTS, STANDPIPE AND COUPLINGS, ALL FIRE HYDRANTS SHALL BE RESTRAINED TO THE WATER MAIN USING MEGA-LUGS OR APPROVED EQUAL. HYDRANTS SHALL BE FACTORY PAINTED WITH TWO COATS OF RUST-PREVENTIVE PAINT. ALL HYDRANTS BARRELS SHALL BE PAINTED SAFETY YELLOW. THE BONNET AND THREE NOZZLES SHALL BE COLOR CODED AS PER THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS. THE COLORS ARE BASED UPON THE HYDRANT'S AVAILABLE FIRE FLOW AND AS DETERMINED BY THE PUBLIC WORKS ENGINEERING DIVISION:

FLOW	RUSTOLEUM ITEM #	COLOR
<500 GPM 500-1,000 GPM	K7764402 3455402	SAFETY RED SAFETY ORANGE
1,000-1,500 GPM	3433402	SAFETY GREEN
>1,500 GPM	K7725402	SAFETY BLUE
ALL BARRELS	245279	SAFETY YELLOW

HECKED

ALL DARKELS FIRE HYDRANTS SHALL BE AS LISTED IN WSSC GENERAL CONDITIONS/STANDARD SPECIFICATIONS, SECTION 02510.

FIRE HYDRANTS SHALL HAVE 5-L/4-INCH, 3-WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE). 6-INCH DIAMETER MECHANICAL JOINT INLET CONNECTION CLOCKWISE TURN CLOSE, NATIONAL STANDARD OPERATING NUT.

POLYETHYLENE ENCASEMENT: ALL DUCTILE IRON PIPE, FITTINGS AND APPURTENANCES SHALL BE SINGLE WRAP POLYETHYLENE ENCASED IN ACCORDANCE WITH AWWA C 105 METHOD 'A' AND WSSC SPECIFICATIONS; SECTION 02510. AFTER THE PIPE HAS BEEN ASSEMBLED IN TRENCH, APPLICANT SHALL CAREFULLY INSPECT POLYETHYLENE ENCASEMENT FOR DAMAGE AND REPAIR IN ACCORDANCE WITH AWWA C 105 AND MANUFACTURER'S RECOMMENDATIONS.

STORAGE: THE APPLICANT SHALL STORE PIPE AND MATERIALS ON SITE, SO AS NOT TO DAMAGE THE MATERIALS, AND SHALL MAINTAIN SUCH STORAGE AREAS IN A HAZARD FREE AND SAFE CONDITION AT ALL

LUBRICANTS: LUBRICANTS SHALL BE POTABLE HYDROGENATED VEGETABLE OIL THAT IS INSOLUBLE IN COLD WATER AND DOES NOT IMPART TASTE OR ODOR. THE LUBRICANT SHALL NOT CONTAIN DETERGENTS, SOAPS OR ORGANIC SOLVENT EITHER ALIPHATIC OR AROMATIC AND SHALL BE CERTIFIED AS NONTOXIC TO HUMANS OR ANIMALS. THE LUBRICANT SHALL BE OF A SEMI-PASTE CONSISTENCY, WHICH WILL READILY STICK TO THE INSIDE OF THE BELL OF THE PIPE WHEN APPLIED BY HAND. IT SHALL REMAIN IN A USABLE STATE THROUGH THE TEMPERATURE IN WHICH WATER PIPE IS NORMALLY INSTALLED.

WATER SERVICE CONNECTIONS: WATER SERVICE CONNECTIONS SHALL BE L-INCH OR 2-INCH COPPER, TYPE "K." OR 4-INCH 6-INCH OR 8-INCH DUOTHE IDEAL SIZE SERVICE CONNECTIONS SHALL BE L-INCH OR 2-INCH COPPER, "K." OR 4-INCH, 6-INCH OR 8-INCH DUCTILE IRON PIPE PRESSURE CLASS 350 AS DETERMINED BY THE INSPECTION SERVICES DIVISION FOR SERVICE FLOW DEMAND AND FIRE PROTECTION REQUIREMENTS. ANY COPPER CONNECTION BETWEEN

MAIN AND METER SHALL BE ONE CONTINUOUS LENGTH. ALL CONNECTIONS MUST BE TAPPED, SADDLES ARE NOT ALLOWED. NO TAPS SHALL BE ALLOWED IN THE LAST 5-FEET OF A DEAD-END MAIN.

- APPLICANTS MUST HAVE A WSSC TAPPING CARD.
- COMPRESSION FITTINGS ARE NOT ALLOWED IN THE CITY OF ROCKVILLE.

CORPORATION STOPS: CORPORATION STOPS SHALL BE AS PER ASI/AWWA C800 WITH WORKING AND TEST PRESSURES AS PER WSSC SPECIFICATIONS. THE CORPORATIONS SHALL BE BRONZE (ASTM B62).

TAP, SLEEVE AND VALVE (T, S & V) ASSEMBLIES: ALL T, S & V ASSEMBLIES ARE TO BE HYDRO-TESTED AND WITNESSED BY DPW AT THE TIME OF INSTALLATION.

COVER: ALL WATER MAINS SHALL BE INSTALLED WITH MINIMUM 3 1/2-FEET OF COVER BELOW FINISHED GRADE OR 3-FEET OF COVER BELOW FINISHED SUBGRADE.

BLOCKING FOR EXISTING MAINS: BLOCK ALL EXISTING FITTINGS WITH CONCRETE PER PLANS AND STANDARD WSSC SPECIFICATIONS AND STANDARD DETAILS. MECHANICAL JOINT FITTINGS, BOLTS, ETC. MUST BE PROTECTED FROM CONCRETE.

WATER MAIN TESTS: THE APPLICANT SHALL ACCOMPLISH LOW (SIX HOUR) AND HIGH PRESSURE (TWO HOUR) TESTS IN ACCORDANCE WITH WSSC STANDARDS AND SPECIFICATIONS. PRIOR TO CONNECTION CONNECTING NEW WATER MAINS OR ON-SITE WATER SYSTEMS TO THE EXISTING PUBLIC SYSTEM, THE APPLICANT WILL CONDUCT A 24-HOUR BACTERIAL TEST. PASSING TEST RESULTS MUST BE PROVIDED FROM A LAB CERTIFIED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND SHALL BE IN ACCORDANCE WITH THE STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER.

- THE APPLICANT MUST NOT USE EXISTING OR NEW WATER MAINS OR APPURTENANCES FOR TEMPORARY RESTRAINT OR SUPPORT DURING PRESSURE TESTS.
- BACK FLOW PREVENTION IS REQUIRED WHEN TESTING A NEW MAIN AS PER WSSC SPECIFICATIONS.

WATER METERS: WATER METERS SHALL BE LOCATED 1-FOOT BEHIND THE PROPERTY LINE IN A GRASS AREA WATER METERS SHALL NOT BE LOCATED IN PRIVATE DRIVEWAYS OR APRONS. YOKE ANGLE VALVES SHOULD BE 7 COMPATIBLE WITH FORD 500 SERIES METER YOKES.

MATERIAL REQUIREMENTS FOR SEWER: DPW SHALL ACCEPT THE FOLLOWING MATERIALS FOR THE CONSTRUCTION OF THE MAIN LINE SEWER, EXCEPT AS OTHERWISE SPECIFIED ON THE PLANS:

- 1. PIPES 4-INCHES THROUGH 15-INCHES IN DIAMETER:
- a. POLYVINYL CHLORIDE PIPE (PVC) MEETING ASTM D3034-78, WALL THICKNESS SDR 35, JOINTS SHALL BE WATERTIGHT.
- 2. PIPES 18.AND GREATER:
- a. DUCTILE IRON, PRESSURE CLASS 350, CEMENT LINED MINIMUM 1/8-INCH THICK WITH US PIPE TYTON JOINT OR APPROVED EQUAL;
- b. POLYVINYL CHLORIDE PIPE (PVC) MEETING ASTM F679, THICKNESS T-1, JOINTS SHALL BE WATERTIGHT.

DUCTILE IRON PIPE MAY BE USED UNDER SPECIAL CONDITIONS SUCH AS STEEP SLOPES OR STREAM 9. CROSSINGS.

PIPE FOR SEWER HOUSE CONNECTIONS SHALL BE 4-INCH POLYVINYL CHLORIDE PIPE AND FITTINGS AS SPECIFIED ABOVE, AND SHALL BE CONNECTED TO THE MAIN LINE BY THE USE OF TEES.

A LOCK AS MANUFACTURED BY ATLANTIC PRECAST CONCRETE, INC. OR EQUAL.

MORTAR USED IN THE INSTALLATION OF A LOCKS OR THE FILLING OF ANY VOID IN MANHOLES WALLS, INSIDE AND OUT, SHALL BE QUICK SETTING, NON-SHRINK SUCH AS OCTOCRETE, SPEEDCRETE, PERMACRETE OR EQUAL.

INSTALLATION OF SANITARY SEWER: SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH WSSC STANDARD DETAILS AND SPECIFICATIONS, SECTION 02530. HYDRO-HAMMERS MAY NOT BE USED WITHIN 3-FEET OF THE TOP OF PIPE. EXERCISE CARE TO ENSURE ADEQUATE COMPACTION AROUND STRUCTURES AND PREVENT DAMAGE TO PIPE AT CONNECTIONS TO MANHOLES.

HORIZONTAL DEFLECTION OF PIPE SHALL BE ACCOMPLISHED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. CONNECTION TO EXISTING SEWERS AND MANHOLES: CONNECTIONS MUST BE AS PER WSSC STANDARD DETAILS AND

SPECIFICATIONS, SECTION 02530.

SEWER MAIN PRESSURE TESTS: THE APPLICANT SHALL ACCOMPLISH PRESSURE TESTS IN ACCORDANCE WITH 11. WSSC STANDARDS AND SPECIFICATIONS. DPW RESERVES THE RIGHT TO VIDEO THE SEWER MAIN FOR QUALITY CONTROL PURPOSES.

CLEANOUTS: CLEANOUTS ARE TO BE INSTALLED ON EACH SEWER SERVICE CONNECTION AND BE LOCATED AT THE PROPERTY LINE, IN A GRASS AREA. CLEANOUT CAPS SHALL BE CAST IRON WITH A BRASS PLUG. PROVIDE CONCRETE CLEANOUT BLOCKS ON ALL SEWER SERVICE CONNECTIONS AT BOTTOM OF CLEANOUT PER WSSC STANDARD DETAILS.

WHEN DROP CONNECTIONS FROM THE BUILDING ARE TO BE USED AT THE PROPERTY LINE CLEANOUT, THE .Y. OF THE CLEANOUT SHALL BE ENCASED PER WSSC STANDARD DETAILS AND STANDARD SPECIFICATIONS.

GEOTECHNICAL NOTES

- 1. THE APPLICANT SHALL BE RESPONSIBLE FOR ALL SUBGRADE INSPECTION AND SOIL COMPACTION TESTING 18. PRIOR TO THE PLACEMENT OF ASPHALT PAVEMENT, PROOF-ROLL THE COMPACTED GRADED ASSOCIATED WITH ANY WORK WITHIN A CITY RIGHT-OF-WAY. PRIVATE PROPERTY SUBJECT TO A PUBLIC ACCESS EASEMENT, OR PRIVATE PROPERTY SUBJECT TO CITY EASEMENT FOR PUBLIC UTILITIES OR PUBLIC IMPROVEMENTS: AND/OR ANY WORK ASSOCIATED WITH A SEDIMENT CONTROL FACILITY. OR STORMWATER MANAGEMENT PRACTICE. THIS WORK SHALL BE COMPLETED BY OR UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND, FOR THE PURPOSES OF THESE NOTES AND ASSOCIATED APPROVED PLANS, THIS ENGINEER SHALL BE REFERRED TO AS THE GEOTECHNICAL ENGINEER AND SHALL BE AN INDEPENDENT FIRM FROM THE APPLICANT.
- 2. ANY PLANS SUBJECT TO NRCS-MD POND CODE 378 STANDARDS/SPECIFICATIONS, AS SHOWN ON THE PLANS, SHALL SUPERSEDE THESE NOTES WHEN THESE NOTES ARE LESS STRINGENT OR IN CASE OF CONFLICT. ANY REFERENCE TO THE ENGINEER IN THE 378 STANDARD/SPECIFICATIONS SHALL BE THE PROFESSIONAL ENGINEER WHO STAMPED AND SEALED THE DESIGN PLANS. ANY REFERENCE TO THE GEOTECHNICAL ENGINEER SHALL BE THE GEOTECHNICAL ENGINEER AS DEFINED ABOVE OR THE GEOTECHNICAL ENGINEER WHO COMPLETED CERTAIN ASPECTS OF THE POND DESIGN.
- 3. ALL INSPECTIONS, TESTS, SUPPORTING DATA, REPORTS AND CERTIFICATIONS SHALL BE PROVIDED TO THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AND SHALL BE SEALED BY THE GEOTECHNICAL ENGINEER. DAILY INSPECTION REPORTS, IF REQUESTED BY THE CITY, CAN BE PROVIDED WITHOUT BEING IMMEDIATELY SEALED BY THE GEOTECHNICAL ENGINEER. THESE REPORTS SHALL BE COMPILED, REVIEWED, SEALED AND THEN SUBMITTED TO DPW AT A LATER DATE AS AGREED UPON BY THE CITY.
- 4. THE GEOTECHNICAL ENGINEER SHALL APPROVE ALL FILL MATERIALS THAT ARE USED FOR THE PROJECT. THE GEOTECHNICAL ENGINEER SHALL OBTAIN SAMPLES OF PROPOSED FILL MATERIALS AND PERFORM ALL REQUIRED TESTING TO DETERMINE THAT FILL MATERIALS ARE IN CONFORMANCE WITH THIS PLAN.
- THE GEOTECHNICAL ENGINEER SHALL PROVIDE A REPORT THAT CERTIFIES THE SUBGRADE PREPARATION AND FILL/BACKFILL PLACEMENT ARE IN CONFORMANCE WITH THIS PLAN. THE CERTIFICATION APPLIES TO ALL FILL, BACKFILL, AND SUBGRADE OPERATIONS SUBJECT TO THIS PLAN AS DETAILED IN NOTE #1, INCLUDING UTILITY TRENCHES. WHEN CONSTRUCTING NEW ROADWAY PAVEMENT THIS CERTIFICATION REPORT SHALL BE PROVIDED PRIOR TO THE PLACEMENT OF GRADED AGGREGATE BASE (GAB). ALL OTHER CERTIFICATIONS SHALL BE PROVIDED AS REQUESTED BY THE CITY.
- ALL FILL AND/OR BACKFILL MATERIAL SHALL BE FREE FROM ORGANICS, FROZEN MATERIAL, ROCKS/STONES GREATER THAN 1.5-INCHES IN ANY DIMENSION, WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR OTHER DELETERIOUS MATERIALS: SHALL BE A MINIMUM OF 105 POUNDS PER CUBIC FOOT FOR THE MAXIMUM DRY DENSITY ACCORDING TO AASHTO T-180, METHOD C; AND SHALL NOT HAVE A LIQUID LIMIT GREATER THAN 30 NOR A PLASTICITY INDEX GREATER THAN SIX ACCORDING TO ASTM D-4318. ALL OTHER MATERIALS SHALL MEET THE REQUIREMENTS STATED IN CATEGORY 900 OF THE LATEST EDITION OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
- COMPACT THE MATERIAL THAT IS ONE FOOT BELOW THE TOP OF SUBGRADE TO AT LEAST 92 PERCENT OF THE MAXIMUM DRY DENSITY PER AASHTO T-180. COMPACT THE TOP ONE FOOT TO AT LEAST 97 PERCENT OF THE MAXIMUM DRY DENSITY. WHEN NECESSARY, ADD WATER OR DRY THE LAYER IN ORDER TO COMPACT TO THE REQUIRED DENSITY. GENERALLY THE MATERIAL SHALL BE WITHIN TWO PERCENT OF THE OPTIMUM MOISTURE CONTENT BUT MAY BE OUTSIDE OF THIS RANGE IF APPROVED BY THE GEOTECHNICAL ENGINEER.
- 8. FILL AND BACKFILL MATERIALS MUST COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE STRUCTURE OR PIPE. FOR STORMWATER MANAGEMENT EMBANKMENTS. THE APPLICANT SHALL SCARIFY EACH LIFT WITH A SHEEPSFOOT ROLLER OR CLAW TO A MINIMUM DEPTH OF 2-INCHES PRIOR TO PLACING THE NEXT LIFT. THE APPLICANT SHALL SCARIFY EMBANKMENTS PARALLEL WITH THE CENTERLINE OF THE DAM CORE AND PERPENDICULAR TO THE PRINCIPAL SPILLWAY. BEDDING SHALL BE PROVIDED IN ACCORDANCE WITH DETAILS INDICATED ON THE CONSTRUCTION DRAWINGS. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL THE APPLICANT DRIVE EQUIPMENT OVER ANY PART OF A CORRUGATED METAL PIPE UNLESS THERE IS A COMPACTED FILL OF 24-INCHES OR GREATER OVER THE STRUCTURE OR PIPE.
- AT A MINIMUM, COMPACTION TESTS SHALL BE COMPLETED FOR EVERY LIFT OF FILL OR BACKFILL. THE TESTING FREQUENCY SHALL BE AT LEAST ONCE PER 150 LINEAR FEET OF TRENCH OR ONCE PER 1,500 SQUARE FEET OF FILL. AT A MINIMUM, THERE SHALL BE AT LEAST ONE COMPACTION TEST PER LIFT AND A LEAST TWO COMPACTION TESTS PER DAY. THE GEOTECHNICAL ENGINEER SHALL SUPPLY DPW WITH CERTIFIED COMPACTION TEST RESULTS, INCLUDING CERTIFICATION OF PIPE BEDDING SUBGRADE AND FILL SUBGRADE.
- 10. PRIOR TO PLACING ANY ROADWAY FILL ON EXISTING GRADES (ORIGINAL GRADE AFTER TOPSOIL HAS BEEN STRIPPED. FILL PREPARED BY OTHERS OUTSIDE OF THIS PLAN OR FILL NOT PREPARED UNDER THE FLEXIBLE GASKETS SHALL BE USED FOR CONNECTIONS TO PRECAST AND EXISTING MANHOLES, AND SHALL BE SUPERVISION OF THE GEOTECHNICAL ENGINEER), SCARIFY THE MINIMUM TOP 8—INCHES OF SOIL MATERIAL COMPACT THIS LAYER TO THE COMPACTION REQUIREMENTS IN THESE NOTES. PROOF-ROLL THIS COMPACTED LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF-ROLLING AND DETERMINE IF THE SUBGRADE IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION, SUBGRADE AREAS THAT FAIL PROOF-ROLLING SHALL BE REMEDIATED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
 - A. SCARIFYING, MOISTURE CONDITIONING AND RE-COMPACTION OF THE SUBGRADE MATERIALS
 - B. UNDERCUTTING SOFT OF UNSUITABLE AREAS OF SUBGRADE AND BACKFILLING WITH COMPACTED SELECT BORROW (MSHA SECTION 916) C. UNDERCUTTING OF SOFT OR UNSUITABLE AREAS OF SUBGRADE AND PLACING A LAYER OF GEOTEXTILE
 - COVERED BY # MSHA 57 COARSE AGGREGATE (TABLE 901A).

DPW MAY APPROVE AN ALTERNATE APPROACH FOR SOIL REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER.

- EXCEPT WHEN SPECIFIED, DO NOT PLACE LAYERS EXCEEDING 8-INCHES UN-COMPACTED DEPTH. PLACE THE MATERIAL IN HORIZONTAL LAYERS ACROSS THE FULL WIDTH OF THE EMBANKMENT. PERFORM ALL ROLLING IN A LONGITUDINAL DIRECTION ALONG THE EMBANKMENT. BEGIN AT THE OUTER EDGES AND PROGRESS TOWARDS THE CENTER. VARY THE TRAVEL PATHS OF TRAFFIC AND EQUIPMENT OVER THE WIDTH OF THE EMBANKMENT TO AID IN OBTAINING UNIFORM COMPACTION.
- 12. UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. GRADE AND PREPARE THE SUBGRADE SECTION TO THE LINES, GRADES, CROSS SECTIONS AND/OR ELEVATIONS SHOWN ON THE PLANS. AT ALL TIMES, MAINTAIN THE SUBGRADE SURFACE IN SUCH CONDITION AS TO READILY
- 13. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY. FROZEN OR CONTAIN FROST OR ICE. VEHICULAR AND EQUIPMENT TRAFFIC SHALL BE DISTRIBUTED ACROSS THE PREPARED SURFACE IN SUCH A MANNER AS TO PREVENT DISTURBANCE. REPAIR ANY DAMAGE TO THE PREPARED SUBGRADE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER MUST APPROVE THE STORAGE OR STOCKPILING OF HEAVY LOADS ON A ROADWAY SUBGRADE.
- 14. UNSUITABLE EXISTING FILL, SOFT OR LOOSE NATURAL SOILS, ORGANIC MATERIAL AND RUBBLE SHALL BE STRIPPED TO APPROVED GRADES AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
- 15. PROTECT ALL STRUCTURES AND UTILITIES FROM ANY DAMAGE IN THE HANDLING, PROCESSING OR COMPACTING OF EMBANKMENT OR BACKFILL MATERIAL. EXERCISE CAUTION NEAR ARCHES, RETAINING WALLS, CULVERTS AND UTILITY TRENCHES TO PREVENT UNDUE STRAIN OR MOVEMENT. THE GEOTECHNICAL ENGINEER MAY REQUIRE THE USE OF SPECIALLY SELECTED MATERIAL ADJACENT TO STRUCTURES TO PROTECT AGAINST DAMAGE. DO NOT USE ROCK GREATER THAN 1.5-INCHES IN ANY DIMENSION ADJACENT TO STRUCTURES.
- 16. WHEN PLACING AND COMPACTING EMBANKMENT ON HILLSIDES OR AGAINST EXISTING EMBANKMENTS. CONTINUOUSLY BENCH THE SLOPES WHERE THE SLOPE IS STEEPER THAN 4:1 WHEN MEASURED AT RIGHT ANGLES TO THE ROADWAY OR EMBANKMENT CENTERLINE. PERFORM THE BENCHING OPERATION AS THE EMBANKMENT IS CONSTRUCTED IN LAYERS. MAINTAIN A BENCH WIDTH OF AT LEAST FIVE FEET. BEGIN EACH HORIZONTAL CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDES OF THE PREVIOUS CUT. IF THE MATERIAL CUT FROM THE BENCHES MEETS FILL REQUIREMENTS, COMPACT THIS MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL.
- 17. WHEN PLACING FILL OVER EXISTING PAVEMENT, THOROUGHLY BREAK UP, SCARIFY OR REMOVE THE PAVEMENT AS SPECIFIED OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

TECHNOLOGIES

PLANNERS

SCIENTISTS

CONSTRUCTION MANAGERS

8161 MAPLE LAWN BLVD., SUITE 150

FULTON, MARYLAND 20759

(301) 953-1821 (410) 792-8086 FAX: (410) 792-7419

- AGGREGATE BASE (GAB) LAYER USING A FULLY LOADED DUMP TRUCK (MINIMUM 20 TON PAYLOAD CAPACITY). THE GEOTECHNICAL ENGINEER SHALL INSPECT THE PROOF-ROLLING AND DETERMINE IF THE GAB IS ACCEPTABLE OR IF THERE ARE AREAS THAT REQUIRE REMEDIATION. GAB AREAS THAT FAIL PROOF-ROLLING SHALL BE REMEDIATED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER BY EITHER OF THE FOLLOWING METHODS:
- A. SCARIFYING, MOISTURE CONDITIONING AND RE-COMPACTION OF THE GAB MATERIALS B. UNDERCUTTING SOFT OF UNSUITABLE AREAS OF GAB AND REPLACING WITH COMPACTED

DPW MAY APPROVE AN ALTERNATE APPROACH FOR GAB REMEDIATION/IMPROVEMENT IF IT IS RECOMMENDED AND SEALED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A SEALED APPROVAL OF THE GAB PRIOR TO PLACEMENT OF ASPHALT. DPW MAY ACCEPT AN ORAL OR EMAIL APPROVAL WHILE THE FINAL APPROVAL AND REPORTS ARE BEING COMPILED AND COMPLETED.



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

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JRT /FMFNTS	,	/2013	SCALE	DRA	WING	FILE

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DIRECTOR OF PUBLIC WORKS

SWM ___

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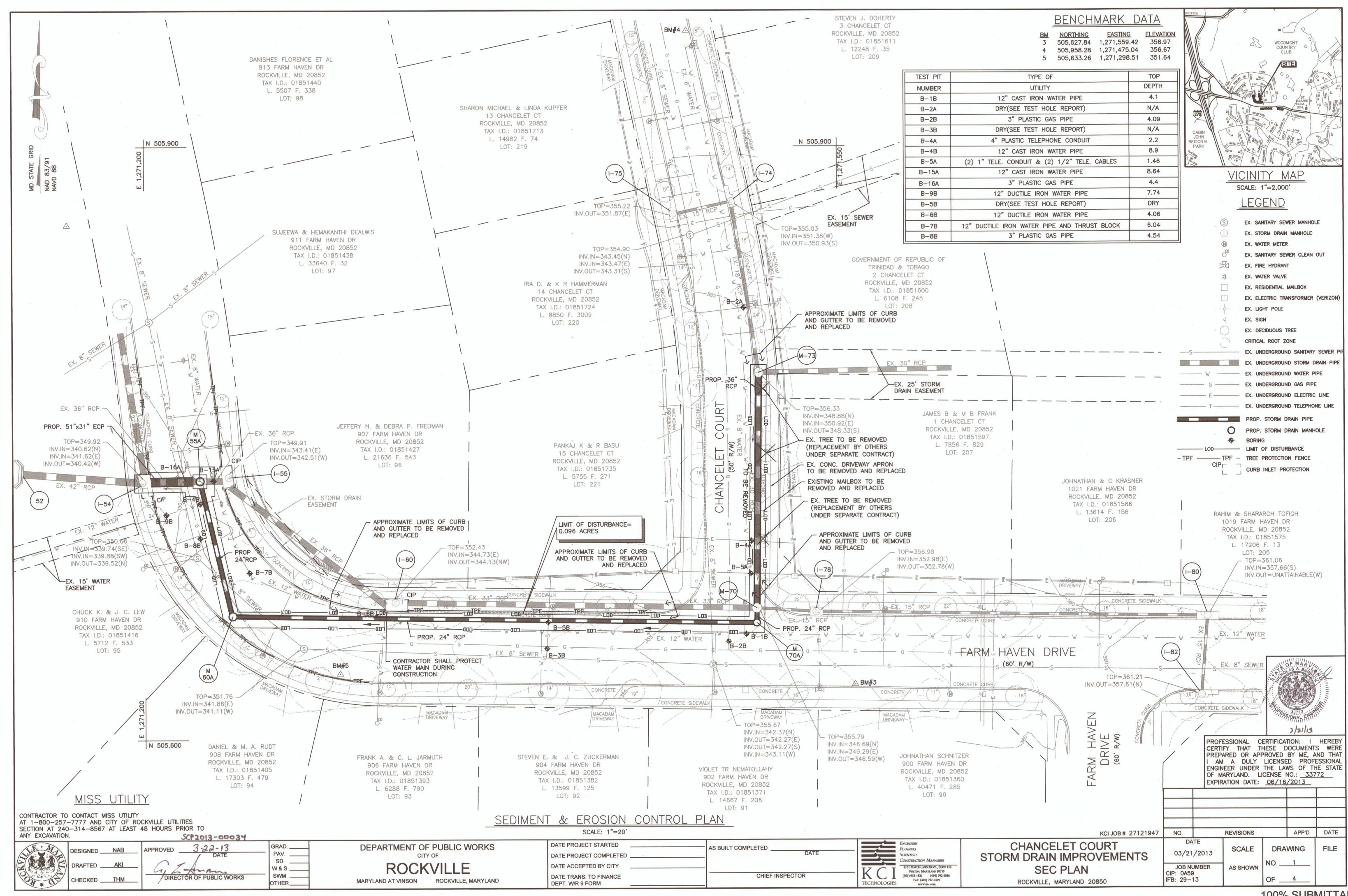
DEPARTMENT OF PUBLIC WORKS MARYLAND AT VINSON ROCKVILLE, MARYLAND DATE PROJECT STARTED AS BUILT COMPLETED DATE PROJECT COMPLETED DATE ACCEPTED BY CITY CHIEF INSPECTOR DATE TRANS. TO FINANCE DEPT. W/R 9 FORM

NOTES CIP: 0A59 IFB: 29-13 ROCKVILLE, MARYLAND 20850

JOB NUMBER

CHANCELET COURT

STORM DRAIN IMPROVEMENTS



STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DESIGN CRITERIA

THE GRADING PLAN SHOULD BE BASED ON THE INCORPORATION OF BUILDING DESIGNS AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPOSED ON THE GRADING OPERATION RELATED TO SLOPE STABILITY, ADJACENT PROPERTIES, DRAINAGE PATTERNS, MEASURES FOR WATER REMOVAL, AND VEGETATIVE TREATMENT, ETC.

MANY JURISDICTIONS HAVE REGULATIONS AND DESIGN PROCEDURES ALREADY ESTABLISHED FOR LAND GRADING THAT MUST BE FOLLOWED. THE PLAN MUST SHOW EXISTING AND PROPOSED CONTOURS FOR THE AREA(S) TO BE GRADED INCLUDING PRACTICES FOR EROSION CONTROL, SLOPE STABILIZATION, AND SAFE CONVEYANCE OF RUNOFF (E.G., WATERWAYS, LINED CHANNELS, REVERSE BENCHES, GRADE STABILIZATION STRUCTURES). THE GRADING/CONSTRUCTION PLANS ARE TO INCLUDE THE PHASING OF THESE PRACTICES AND CONSIDERATION OF THE FOLLOWING:

- I. PROVISIONS TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
- 2. CUT AND FILL SLOPES, STABILIZED WITH GRASSES, NO STEEPER THAN 2:L. (WHERE THE SLOPE IS TO BE MOWED, THE SLOPE SHOULD BE NO STEEPER THAN 3:L, BUT 4:L IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOWING STEEP SLOPES.) SLOPES STEEPER THAN 2:L REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS TO BE SHOWN ON THE PLANS.
- 3. BENCHING PER DETAIL B-3-1 WHENEVER THE VERTICAL INTERVAL (HEIGHT) OF ANY 2:L SLOPE EXCEEDS 20 FEET; FOR 3:L SLOPES, WHEN IT EXCEEDS 30 FEET; AND FOR 4:L SLOPES, WHEN IT EXCEEDS 40 FEET. LOCATE BENCHES TO DIVIDE THE SLOPE FACE AS EQUALLY AS POSSIBLE AND TO CONVEY THE WATER TO A STABLE OUTLET. SOILS, SEEPS, ROCK OUTCROPS, ETC. ARE TO BE TAKEN INTO CONSIDERATION WHEN DESIGNING BENCHES.
 - A. PROVIDE BENCHES WITH A MINIMUM WIDTH OF SIX FEET FOR EASE OF MAINTENANCE.

 B. DESIGN BENCHES WITH A REVERSE SLOPE OF 6:L OR FLATTER TO THE TOE OF THE UPPER SLOPE AND WITH A MINIMUM OF ONE FOOT IN DEPTH. GRADE THE LONGITUDINAL SLOPE OF THE BENCH BETWEEN 2 PERCENT AND 3 PERCENT, UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
- C. THE MAXIMUM ALLOWABLE FLOW LENGTH WITHIN A BENCH IS 800 FEET UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
- 4. DIVERSION OF SURFACE WATER FROM THE FACE OF ALL CUT AND FILL SLOPES USING EARTH DIKES OR SWALES. CONVEY SURFACE WATER DOWN SLOPE USING A DESIGNED STRUCTURE, AND:

 A. PROTECT THE FACE OF ALL GRADED SLOPES FROM SURFACE RUNOFF UNTIL THEY ARE
- STABILIZED.

 B. DO NOT SUBJECT THE SLOPE'S FACE TO ANY CONCENTRATED FLOW OF SURFACE
- WATER SUCH AS FROM NATURAL DRAINAGE WAYS, GRADED SWALES, DOWNSPOUTS, ETC.

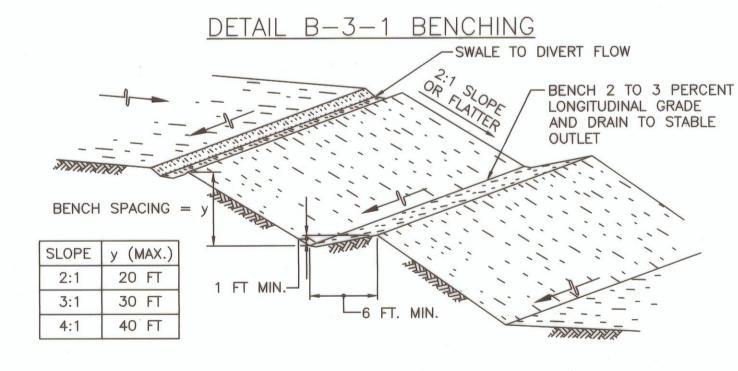
 C. PROTECT THE FACE OF THE SLOPE BY SPECIAL EROSION CONTROL MATERIALS TO INCLUDE, BUT NOT BE LIMITED TO, APPROVED VEGETATIVE STABILIZATION PRACTICES, RIPRAP OR OTHER APPROVED STABILIZATION METHODS.
- 5. SERRATED SLOPE AS SHOWN IN DETAIL B-3-2. THE STEEPEST ALLOWABLE SLOPE FOR RIPABLE ROCK IS 1.5:1. FOR NON ROCK SURFACES, THE SLOPES ARE TO BE 2:1 OR FLATTER. THESE STEPS WILL WEATHER AND ACT TO HOLD MOISTURE, LIME, FERTILIZER AND SEED THUS PRODUCING A MUCH QUICKER AND LONGER LIVED VEGETATIVE COVER AND BETTER SLOPE STABILIZATION.
- 6. SUBSURFACE DRAINAGE PROVISIONS. PROVIDE SUBSURFACE DRAINAGE WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.
- PROXIMITY TO ADJACENT PROPERTY. SLOPES MUST NOT BE CREATED CLOSE TO PROPERTY LINES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED DAMAGES.
- 8. QUALITY OF FILL MATERIAL. FILL MATERIAL MUST BE FREE OF BRUSH, RUBBISH, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIAL. DO NOT PLACE FROZEN MATERIALS IN THE FILL NOR PLACE THE FILL MATERIAL ON A FROZEN FOUNDATION.
- 9. STABILIZATION. STABILIZE ALL DISTURBED AREAS STRUCTURALLY OR VEGETATIVELY IN COMPLIANCE WITH SECTION B-4 STANDARDS AND SPECIFICATIONS FOR STABILIZATION PRACTICES.

MAINTENANCE

DESIGNED _

CHECKED

THE LINE, GRADE, AND CROSS SECTION OF BENCHING AND SERRATED SLOPES MUST BE MAINTAINED. BENCHES AND SERRATED SLOPES MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.



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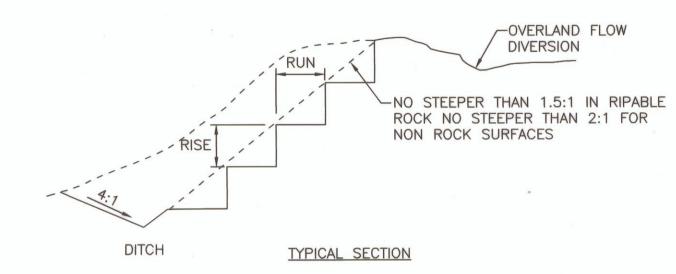
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DIRECTOR OF PUBLIC WORKS

CONSTRUCTION SPECIFICATIONS

- 1. USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- 2. DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
- 3. PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
- 4. COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- 5. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED MEII-IODS.
- 6. MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON II—IE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- 7. KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

DETAIL B-3-2 SERRATED SLOPES



CONSTRUCTION SPECIFICATIONS

- 1. DIVERT OVERLAND FLOW FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRY TO A SUITABLE OUTLET.
- 2. MAKE SERRATIONS AS THE EXCAVATION PROGRESSES.
- 3. CONSTRUCT EACH STEP OR SERRATION ON THE CONTOUR. RISE & RUN DIMENSIONS WILL VARY DEPENDING ON THE FINAL SLOPE RATIO. FOR RIPABLE ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND THREE FOOT HORIZONTAL (RUN) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 1.5:1. FOR NON ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND FOUR FOOT HORIZONTAL (RUNS) SERRATIONS AT A SLOPE RAIIO NO STEEPER THAN 2:1
- 4. KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- 5. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION $H\!-\!2$ SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- 6. MAINTAIN LINE, GRADE, AND CROSS SECTION OF SERRATED SLOPES. TEMPORARILY OR PERMANENTLY STABILIZE ALL GRADED, NON ROCK SURFACES IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENTS OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

<u>PURPOSE</u>

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS. PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE. SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

DEPARTMENT OF PUBLIC WORKS

CITY OF

MARYLAND AT VINSON

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.

ROCKVILLE, MARYLAND

- 2. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
- 3. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.

DATE PROJECT STARTED

DATE ACCEPTED BY CITY

DATE TRANS. TO FINANCE

DEPT. W/R 9 FORM

DATE PROJECT COMPLETED

4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

PURPOSE

TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

CRITERIA

- 1. INCREMENTAL STABILIZATION CUT SLOPES
- A. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
- B. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
 a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED
- TO CONVEY RUNOFF AROUND THE EXCAVATION.
- b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
 c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
- C. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

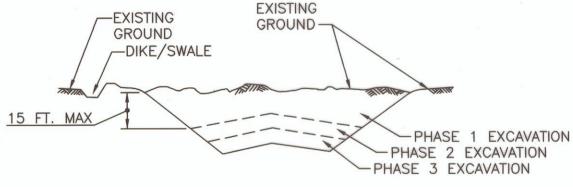


FIGURE B.1: INCREMENTAL STABILIZATION - CUT

- 1. INCREMENTAL STABILIZATION FILL SLOPES
 - A. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
- B. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
- C. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
- D. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
 - d. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
- b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
- c. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
- d. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
 e. PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED

PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

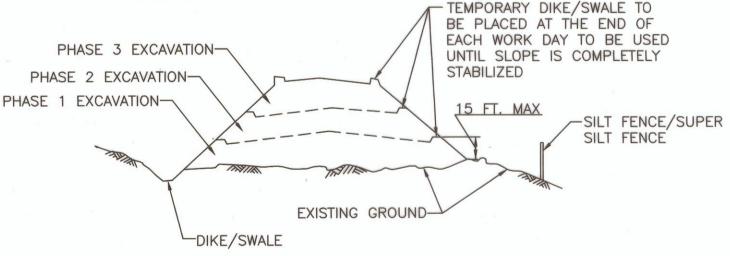


FIGURE B.2: INCREMENTAL STABILIZATION - FILL

STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

<u>PURPOSE</u>

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CHIEF INSPECTOR

<u>CRITERIA</u>

SOIL PREPARATION
 A. TEMPORARY STABILIZATION

AS BUILT COMPLETED

- a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE
- CONTOUR OF THE SLOPE.

 b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

8161 MAPLE LAWN BLVD., SUITE 150
FULTON, MARYLAND 20759
(301) 953-1821 (410) 792-8086
FAX: (410) 792-7419
www.kci.com

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2. PERMANENT STABILIZATION

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

a. SOIL PH BETWEEN 6.0 AND 7.0.b. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

d. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
e. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON—SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE.

TOPSOILING

A. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH. MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

B. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA—NRCS.

C. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO

SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

PRODUCE VEGETATIVE GROWTH.

e. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT

NUTRIENTS.

f. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

g. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
D. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND

DESIGN.
E. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING

CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS

LARGER THAN 1½ INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

F. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING

TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADINGAND SEEDBED PREPARATION.

CON AMENDMENTO (FERTILIZED AND LIME OREGIFICATION

4. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

A. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

B. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

C. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

D. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

E. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE

F. RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.



I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772

EXPIRATION DATE: 06/16/2013

REVISIONS APP'D DATE

PROFESSIONAL CERTIFICATION: 1 HEREB

CERTIFY THAT THESE DOCUMENTS WERE

PREPARED OR APPROVED BY ME, AND THAT

100% SUBMITTAL

STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

<u>PURPOSE</u>

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

SEEDING A. SPECIFICATIONS

- a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE—TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
- b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
- C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
 d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS

B. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE—SPECIFIC SEEDING

ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

- SUMMARIES.

 ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
- b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
- CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
- ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES
- SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
- ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
- iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

2. MULCHING

- A. MULCH MATERIALS (IN ORDER OF PREFERENCE)
- a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD
- CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

 i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
- ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL
- WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

 iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION
- LEVELS THAT WILL BE PHYTO—TOXIC.

 V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

B. APPLICATION

- a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
 b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2
 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO
 ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT
 EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO
- 2.5 TONS PER ACRE.
 c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

GALLONS OF WA

- a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
- i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
- ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO—TACK), DCA—70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO
- iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

SCP2013-00034

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OF STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING TABLE

-									
	HARD	DINESS ZONE (FROM	FERTILIZER RATE	LIME RATE					
NO.		SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	LIMIL RATE		
	1	BARLEY	96	3/1-5/31 8/1-10/15	1.0"				
	2	CEREAL RYE	112	3/1-5/15 8/1-11/15	1.0"	436 LB/AC (10LB/1000SF)	2 TONS/AC (90LB/1000SF)		
	3	FOXTAIL MILLET	30	5/16-7/31	0.5"				

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

<u>PURPOSE</u>

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

1. SEED MIXTURES

- A. GENERAL USE

 a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA—NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342— CRITICAL AREA PLANTING.
- c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
- B. TURFGRASS MIXTURES
 a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED
- ON THE PLAN.

 i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS
- WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

 iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
- iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET. NOTES:
- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
- WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)

 CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE:
- SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15,
 AUGUST 15 TO OCTOBER 15
 (HARDINESS ZONES: 7A, 7B)

- d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO
- e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING TABLE

HE RY	HARDINESS ZONE (FROM FIGURE B.3):6B					FERTILIZER RATE (10-20-20)			
NG US	NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P2O5	K20	LIME RATE
HE OR XT	4	DEERTONGUE CREEPING RED FESCUE VIRGINIA WILD RYE	15 20 5	3/1-5/15 5/16-6/15	0.5"		~		
1	- 6	TALL FESCUE PERENNIAL RYEGRASS WHITE CLOVER	40 25 5	3/1-5/15 8/1-10/15	0.5"	45LB/AC (1LB/ 1000SF)	90LB/AC (2LB/ 1000SF)	90LB/AC (2LB/ 1000SF)	2 TONS/AC (90LB/ 1000SF)
	9	TALL FESCUE KENTUCKY BLUEGRASS	60 40	3/1-5/15 8/1-10/15	0.5"				
					,				

- SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
 A. GENERAL SPECIFICATIONS
 - a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM
 - GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

 d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
 - B. SOD INSTALLATION
 - a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
 - C. SOD MAINTENANCE

 a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS

LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A

GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED. GEOTEXTILE FABRICS

	A _e c	WOVEN SILT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE		
	MINIMUM AVERAGE ROLL VALUE							
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD	
GRAB TENSILE STRENGTH	ASTM D-4632	200 LB	200 LB	370 LB	250 LB	200 LB	200 LB	
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%	
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 LB	75 LB	100 LB	60 LB	80 LB	80 LB	
PUNCTURE STRENGTH			450 LB		900 LB		450 LB	
APPARENT OPENING SIZE 2			U.S. SIEVE 30 (0.59 mm)		U.S. SIEVE 70 (0.21 mm)		U.S. SIEVE 70 (0.21 mm)	
PERMITTIVITY	ASTM D-4491	0.05 SEC ⁻¹		0.28 SEC ⁻¹		1.1 SEC ⁻¹		
ULTRAVIOLET RESISTEANCE RETAINED AT 500 HOURS	ASTM D-4355	70% S1	TRENGTH	70% ST	RENGTH	70% ST	RENGTH	

1 ALL NUMERIC VALUES EXCEPT APPARENT OPENING SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION; CD IS CROSS DIRECTION.

 2 VALUES FOR AOS REPRESENT THE AVERAGE MAXIMUM OPENING.

GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPEP) AND CONFORM TO THE VALUES IN TABLE H.1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDEW RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

TABLE H.2: STONE SIZE

TYPE	SIZE RANGE	D50	D100	AASHTO	MIDSIZE WEIGHT ³	
NUMBER 57 ¹	3/8 TO 1-1/2 INCH	1/2 IN	1-1/2 IN	M-43	N/A	
NUMBER 1	2 TO 3 INCH	2-1/2 IN	3 IN	M-43	N/A	
RIPRAP ² (CLASS 0)	4 TO 7 INCH	5-1/2 IN	7 IN	N/A	N/A	
CLASS I	N/A	9-1/2 IN	15 IN	N/A	40 LB	
CLASS II	N/A	16 IN	24 IN	N/A	200 LB	
CLASS III	N/A	23 IN	34 IN	N/A	600 LB	

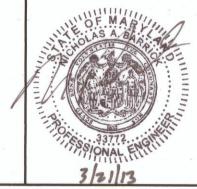
1 THIS CLASSIFICATION IS TO BE USED ON THE UPSTREAM FACE OF STONE OUTLETS AND CHECK DAMS.

² THIS CLASSIFICATION IS TO BE USED FOR GABIONS.

³ OPTIMUM GRADATION IS 50 PERCENT OF THE STONE BEING ABOVE AND 50 PERCENT BELOW THE MIDSIZE.

STONE MUST BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZED SO THAT FIFTY (50) PERCENT OF THE PIECES BY WEIGHT ARE LARGER THAN THE SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE IN SUCH A MIXTURE MUST NOT EXCEED THE RESPECTIVE D100 SELECTED FROM TABLE H.2. THE D50 REFERS TO THE MEDIAN DIAMETER OF THE STONE. THIS IS THE SIZE FOR WHICH 50 PERCENT, BY WEIGHT, WILL BE SMALLER AND 50 PERCENT WILL BE LARGER.

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS FOR TEMPORARY CONTROL MEASURES ONLY. CONCRETE BROKEN INTO THE SIZES MEETING THE APPROPRIATE CLASSIFICATION, CONTAINING NO STEEL REINFORCEMENT, AND HAVING A MINIMUM DENSITY OF 150 POUNDS PER CUBIC FOOT MAY BE USED AS AN EQUIVALENT.



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

EXPIRATION DATE: 06/16/2013

KCI JOB # 27121947 NO. REVISIONS APP'D DATE

DATE

DEPARTMENT OF PUBLIC WORKS

ROCKVILLE

MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT COMPLETED ___

DATE ACCEPTED BY CITY __

DATE TRANS. TO FINANCE
DEPT. W/R 9 FORM

DATE PROJECT STARTED

AS BUILT COMPLETED

DATE

CHIEF INSPECTOR

CHIEF INSPECTOR

DATE

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8161 MAPLE LAWN BLVD., SUITE 150
FULTON, MARYLAND 20759
(301) 953-1821 (410) 792-8086
FAX: (410) 792-7419
www.kci.com

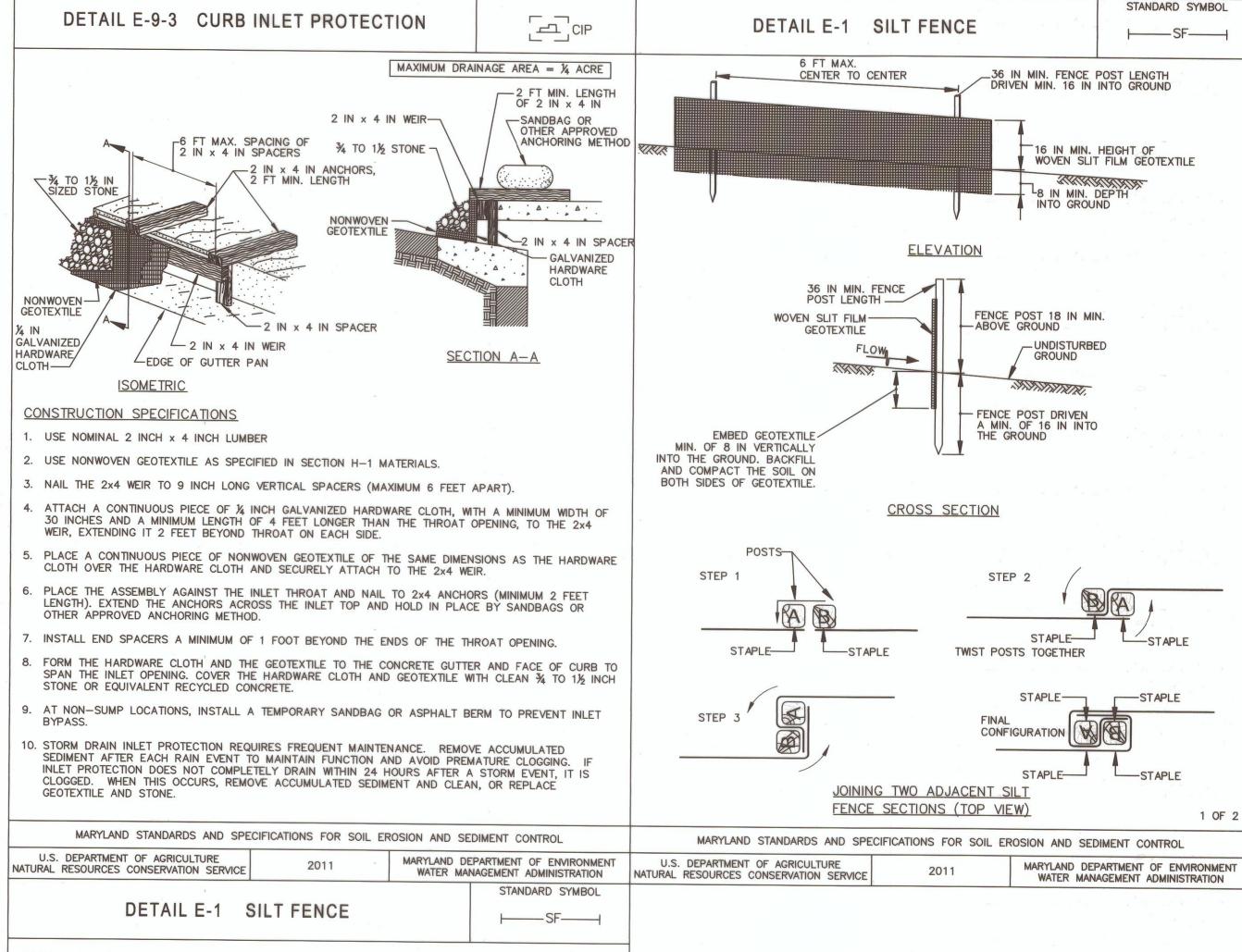
CHANCELET COURT STORM DRAIN IMPROVEMENTS SEC NOTES & DETAILS

ROCKVILLE, MARYLAND 20850

EROSION AND SEDIMENT CONTROL NOTES

- 1. THE APPLICANT MUST OBTAIN INSPECTION AND APPROVAL BY THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AT THE FOLLOWING POINTS:
- a. AT THE REQUIRED PRECONSTRUCTION MEETINGS.
- b. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING
- c. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO
- COMMENCING CONSTRUCTION IS MANDATORY. d. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL DEVICES.
- e. PRIOR TO FINAL ACCEPTANCE.
- 2. ALL EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE PUBLISHED STANDARDS AND SPECIFICATIONS AND THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
- 3. THE APPLICANT SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE. SHALL HAVE THEM INSPECTED AND APPROVED BY DPW PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES WITHOUT PRIOR PERMISSION FROM DPW.
- 4. ANY REQUEST FOR CHANGES TO THE APPROVED SEDIMENT CONTROL PLAN OR SEQUENCE OF CONSTRUCTION MUST BE SUBMITTED TO THE DPW SEDIMENT CONTROL INSPECTOR AND APPROVED BEFORE IMPLEMENTING CHANGES. MAJOR CHANGES WILL REQUIRE A PLAN REVISION.
- 5. THE APPLICANT SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
- THE APPLICANT SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DPW SEDIMENT CONTROL INSPECTOR.
- 7. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, SWALES, PERIMETER DIKES AND PERMANENT SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN CALENDAR DAYS OF ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. RESTABILIZATION OR OVERSEEDING WILL BE REQUIRED, IF NECESSARY.
- 8. THE APPLICANT SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN 3 CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS, SUCH AS BORROW OR STOCKPILE AREAS. ROADWAY IMPROVEMENTS AND AREAS WITHIN 50-FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPTED FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS. STOCKPILES, WHICH HAVE NOT BEEN USED FOR 14 CALENDAR DAYS, SHALL BE STABILIZED THROUGH THE APPLICATION OF SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES.
- 9. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE APPLICANT SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN 7 CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
- 10. THE SITE WORK, MATERIALS, APPROVED SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS AND ANY REQUIRED TEST REPORTS SHALL BE AVAILABLE, AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF THE CITY OF ROCKVILLE
- 11. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED. AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY
- 12. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
- 13. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF DPW, WITHIN 30 CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. IF ESTABLISHMENT IS NOT FULL AND UNIFORM AS DETERMINED BY THE DPW SEDIMENT CONTROL INSPECTOR. OVERSEEDING WILL BE REQUIRED. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL
- 14. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3: L WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN AREAS THAT ARE NOT TO BE MAINTAINED PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
- 15. THE APPLICANT SHALL INSTALL A SPLASH BLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
- 16. ALL WATER PUMPED FROM AN EXCAVATION DURING CONSTRUCTION SHALL BE PUMPED EITHER TO SEDIMENT TANKS AND/OR SEDIMENT TRAPS. NO WATER WILL BE PUMPED TO THE STORM DRAIN SYSTEM OR SWALE. DE-WATERING SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 17. FOR FINISHED GRADING, THE APPLICANT SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO: (1) PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN 24 HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS 48 HOURS AFTER THE END OF A RAINFALL, AND (2) PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS OR OPENINGS.
- 18. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING, WHICH EXISTS OR IS UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR
- 19. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING TO DIRECT RUNOFF TO INLETS.
- 20. THE DPW SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
- 21. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
- 22. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 23. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE-HALF THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP.

- 24. SEDIMENT REMOVED FROM TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS IN SUCH A MANNER THAT IT DOES NOT FOUL EXISTING OR PROPOSED STORM DRAINAGE SYSTEMS OR AREAS ALREADY STABILIZED. SEDIMENT SHALL NOT BE PLACED WITHIN A FLOOD PLAIN OR WETLAND.
- 25. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42-INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8-FEET, HAVE MESH OPENINGS NO GREATER THAN 2-INCHES IN WIDTH AND 4-INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
- 26. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE APPROVED SEDIMENT CONTROL PLANS.
- 27. PROTECT ALL TREES TO BE PRESERVED DURING CONSTRUCTION IN ACCORDANCE WITH THE APPROVED FOREST
- 28. THE APPLICANT IS RESPONSIBLE FOR ALL ACTIONS OF CONTRACTOR AND SUBCONTRACTORS, INCLUDING REPAIRING DAMAGE TO SEDIMENT CONTROL DEVICES AND EXISTING INFRASTRUCTURE.
- 29. THE APPLICANT SHALL COMPLY WITH ALL PROVISIONS OF THE NPDES CONSTRUCTION DISCHARGE PERMIT. A COPY OF THE PERMIT AND ALL REQUIRED REPORTS SHALL BE AVAILABLE ON SITE AT ALL TIMES.



CONSTRUCTION SPECIFICATIONS

ENDS OF THE SILT FENCE.

USE WOOD POSTS 13/4 X 13/4 ± 1/6 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS

AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.

. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET

. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP

. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE

REQUIREMENTS IN SECTION H-1 MATERIALS. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND

COMPACT THE SOIL ON BOTH SIDES OF FABRIC. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN

ACCORDANCE WITH THIS DETAIL. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN

SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE. 2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME. AND THAT AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

REVISIONS APP'D DATE

SCP2013-00034 GRAD. DESIGNED NAB PAV. ____ SD W&S____ DIRECTOR OF PUBLIC WORKS SWM _ HECKED THER

DEPARTMENT OF PUBLIC WORKS CITY OF

MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED DATE PROJECT COMPLETED DATE ACCEPTED BY CITY DATE TRANS. TO FINANCE DEPT. W/R 9 FORM

AS BUILT COMPLETED **PLANNERS** SCIENTISTS CONSTRUCTION MANAGERS 8161 MAPLE LAWN BLVD., SUITE 150 FULTON, MARYLAND 20759 CHIEF INSPECTOR (301) 953-1821 (410) 792-8086 FAX: (410) 792-7419 TECHNOLOGIES

KCI JOB # 27121947 CHANCELET COURT STORM DRAIN IMPROVEMENTS **SEC NOTES & DETAILS** ROCKVILLE, MARYLAND 20850

NO. DATE 03/21/2013 JOB NUMBER AS SHOWN CIP: 0A59 IFB: 29-13

DRAWING